THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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BY JOSIAH TATUM,

EDITOR AND PROPRIETOR,

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For the Farmers' Cabinet.

The Plough.

In a history of the Plough, extracted from the New York Agricultural Transactions, and published in the Cabinet for August, p. 19, I do not consider that justice has been done the subject, inasmuch as no notice whatever is taken of one of the greatest—perhaps the very *greatest* improvement that has been made in that all-important implement, since its first invention. I allude to the principle of Centre-draught, invented and patented by Prouty & Mears, of Boston, and which still retains its primitive superiority; their ploughs having, the last season, taken twenty-three premiums in competition, in different parts of the country, including the Philadelphia Society's first premium "for the best plough after trial;" that honourable testimony having been awarded to it five years out of six, and for the last three years in succession. As proof of the importance of this invention, I would ask leave to extract the following sentence from a late communication by Elias Phinney, Esq., of Lexington, Mass., whose praise, as a practical and scientific tiller of the soil, is in all that part of the country, which may properly be denominated "the Scotland of America." He says:

"I have, for twenty-five years past, personally superintended my own estate, part of which I have annually had under the plough. I have tried English, Scotch, and every variety of American ploughs, and presume I shall be excused for saying, that I consider myself a competent judge of their relative value in the hands of farmers. The application of the Centre-draught principle to the plough by Messrs. Prouty & Mears, is unquestionably, the greatest improvement that has been made in the implement since its first invention; Mr. Prouty was a practical farmer and saw the objections to the old fashioned plough; his ingenious mind set about devising means, whereby the power of draught might be greatly lessened; the liability to wear in certain parts more than others, obviated; the labour of managing it greatly diminished, and at the same time doing the work infinitely better; and well has he done it. And when his improvement shall be generally adopted by farmers, and its merits justly appreciated, Mr. Prouty will be ranked amongst the greatest benefactors of the age."

I would observe, the castings of the Prouty & Mears' ploughs, as well as the workmanship in their construction, cannot be excelled;

while their "fixins" are far superior to *all others*, for regulating with facility and precision the going of their ploughs, which, in the hands of lads of eleven and twelve years of age, are taking premiums throughout the country. By means of the peculiar arrangement of the Rod and Arc—*the sole invention of Messrs. Prouty & Mears*—they are changed from single to double, or three horses abreast ploughs, in a moment of time and with unerring correctness, by the turn of a single screw. A patent was obtained by them in 1840 for their reversing and self-sharpening point and share, which would seem to leave nothing further to be desired. By means of a single set of these, value sixty-two cents, one hundred acres of land have often been turned; the saving in blacksmith's bills soon equalling the first cost of the plough.

It is matter of history, that at the great trial of ploughs at Worcester in the year 1840, at which were present the ploughs of Ruggles, Nourse & Mason, of Worcester; Howard, of Hingham; Whiting, of Rochester; Barnaby & Moer, of Ithaca; and Prouty & Mears, of Boston; the premium of $100 was awarded to the Centre-draught plough of Prouty & Mears, as "the best plough as well as the cheapest; requiring the least draught, and doing the work in the best manner;" the committee observing, that "the Prouty & Mears' plough was the only one present, that worked on the principle of Centre-draught."

In conclusion, and in corroboration of the above, allow me to present the following testimony to the superiority of the Centre-draught plough of Prouty & Mears, from the pen of the present editor of the "Boston Ploughman." Such testimony from such a source speaks volumes, and ought highly to be appreciated.

"This Firm, Nos. 19 North Market, and Clinton streets, Boston, have constantly been improving upon their ploughs, and we think, have brought them to perfection." "The labour of this plough, compared with many others, is like the labour of rolling over an even log, compared with that of rolling over a square stick of timber." "The draught is what is called Centre-draught, and both sides of the plough are carried along together, and with perfect ease." "We are much gratified with the sight of so perfect a plough; it will be a treasure to all who think it important to plough well—by far the most important operation in farming."

P.

Kentucky raises more tobacco than any other State.

Practical Use of Leaves.

There are two facts in the functions of the leaf, which are worth consideration on account of their practical bearings. The food of plants is, for the most part, taken in solution, through its roots. Various minerals—silex, lime, alumen, magnesia, potassa—are passed into the tree in a dissolved state. The sap passes to the leaf, the superfluous water is given off, *but not the substances which it held in solution.* These, in part, are distributed through the plant, and in part, remain as a *deposit in the cells of the leaf.* Gradually the leaf chokes up, its functions are impeded, and finally entirely stopped. When the leaf drops it contains a large per cent. of mineral matter. An autumnal or old leaf yields, upon analysis, a very much larger proportion of earthy matter than a vernal leaf, which, being yet young, has not received within its cells any considerable deposit. It will be found also, that the leaves contain a very much higher per cent. of mineral matter, than *the wood of the trunk.* The dried leaves of the elm contain more than eleven per cent. of ashes, —earthy matter,—while the wood contains less than two per cent.; those of the willow, more than eight per cent., while the wood has only 0.45; those of the beech 6.69; the wood only 0.36; those of the (European) oak 4.05, the wood only 0.21; those of the pitch-pine 3.15, the wood only 0.25 per cent.

It is very plain from these facts, that, in forests, the mineral ingredients of the soil perform a sort of *circulation;* entering the root, they are deposited in the leaf; then, with it, fall to the earth, and by its decay, they are restored to the soil, again to travel their circuit. Forest soils, therefore, instead of being impoverished by the growth of trees, receive back annually the greatest proportion of those mineral elements necessary to the tree, and besides, much organized matter received into the plant from the atmosphere; soils therefore are gaining instead of losing. If owners of parks or groves, for neatness sake, or to obtain leaves for other purposes, gather the annual harvest of leaves, they will, in time, take away great quantities of mineral matter, by which the soil, ultimately, will be impoverished, unless it is restored by manures.

Leaf manure has always been held in high esteem by gardeners. But many regard it as a purely *vegetable substance;* whereas, it is the best mineral manure that can be applied to the soil. What are called vegetable loams,—not peat soils, made up principally, of decomposed *roots,*—contain large quantities of earthy matter, being

mineral vegetable, rather than vegetable soils.

Every gardener should know, that the best manure for any plant is the decomposed leaves and substance of its own species. This fact will suggest the proper course with reference to the leaves, tops, vines, haulm, and other vegetable refuse of the garden.

The other fact connected with the leaf, is its function of *exhalation*. The greatest proportion of crude or sap which ascends the trunk, upon reaching the leaf, is given forth again to the atmosphere, by means of a particularly beautiful economy. The *quantity* of moisture produced by a plant is hardly dreamed of by those who have not specially informed themselves. The experiments of Hales have been often quoted. A sun-flower, three and a half feet high, presenting a surface of 5.616 square inches exposed to the sun, was found to perspire at the rate of twenty to thirty ounces avoirdupois, every twelve hours, or seventeen times more than a man. A vine with twelve square feet, exhaled at the rate of five or six ounces a day. A seedling apple-tree, with twelve square feet of foliage, lost nine ounces a day.

These are experiments upon very small plants. The vast amount of surface presented by a large tree, must give off immense quantities of moisture. The practical bearings of this fact of vegetable exhalation are not a few. Wet forest lands, by being cleared of timber, become dry; and streams, fed from such sources, become almost extinct as civilization encroaches on wild woods. The excessive dampness of crowded gardens is not singular, and still less is it strange that dwellings covered with vines, whose windows are choked with shrubs, and whose roof is overhung with branches of trees, should be intolerably damp, and when the good housewife is scrubbing, scouring and brushing, and nevertheless, marvelling that her house is so infested with mould, she hardly suspects that her troubles would be more easily removed by the axe or saw, than by all her cloths and brushes. A house should be closely surrounded with shrubs. A free circulation of air should be maintained all about it, and shade trees so disposed as to leave large openings for the light and sun to enter. The usual rains of the current season have produced so great a dampness in our residences that no one can fail to have noticed its effect, both on the health of the occupants, and upon the beauty and good condition of their household substance.—*Western Farmer & Gardener.*

On the Importance of the Cultivation of the Oak and other valuable Timber Trees.

With Observations on the Preservation of Ship Timber, and the Process of Decay in Wood. By A. MITCHELL, M. D., Portland. In a letter to the HON. H. A. S. DEARBORN.

MY DEAR SIR,—The following article was communicated by me to Gen. Joseph M. Hernandez, of St. Augustine, Fl., and published in the Florida Herald. You will probably recollect that this gentleman has been, for many years, exclusively devoted to the science of agriculture, and is one of the best systematic planters in that State. An Essay written by him on the Culture of the Tobacco Plant, has been considered to be one of the most elaborate articles ever published on that subject.

Reasoning from analogy on the soil and productions of the southern portion of our Union, we may attribute to Florida, as having within its domains as many natural advantages as any of the tropical regions in the cultivation of those plants that are indigenous to those countries, presenting an extensive surface, which as yet remains imperfectly explored—rich in the spontaneous growth of many esculent plants for the support of man, and the growth of domestic animals, and offering a wide field for the cultivation and introduction of many more for exportation and home consumption. Such are the tea-plant, coffee, tobacco, sugar cane, Turkish poppy, olive tree, cotton, indigo, saffron, grape, fig, &c. As we shall briefly descant, at present, on the vital importance of a community being well versed in agricultural science, in order to improve with advantage those rich fields which a bounteous Creator has spread out before us, we shall principally advert to the forest growth of this peninsular portion of our United States, with some original observations on the preservation of ship timber, and the process of decay in these woods.

The process of decay termed dry rot, has been a theme of scientific inquiries for many years among many of our most eminent chemists; and the most elaborate investigations have been made, both at home and abroad, in order to ascertain the chemical effects of air, heat, light, and moisture, on the same, as our oaks and various timbers that have been previously prepared and appropriated to use for ship-building. We do not, at present, have the presumption to offer any preservative means that would counteract the effects of this dreaded enemy to our national purse, but simply to throw out some

hints that may, in the future, be useful as a rallying point to others that can claim a precedence over their more humble brothers in the profession of science. The modern use of iron in the construction of marine vessels has been thought, at a subsequent period, would supersede that of wood; we should then have oxides to contend with instead of fungi; but we do not believe the former will ever supersede that of the latter. As the grand engine of navigation is deteriorating every day from the causes of decay, it may be asked, what is the dry rot? and how long has it been known to affect the timbers of vessels, and the cause of this effect? Well, in answer to the former, the dry rot is caused by the spontaneous decomposition of the vegetable albumen which acts as a ferment on the other constituent principles that may be present in the wood, as sugar and starch, which disintegrates the fibres of the wood, and accelerates the growth of mushrooms by the formation of ammoniacal salts. Of these fungi, there are two species,—as the Xylostroma giganteum, which grows in the timber like a thin broad patch of yellow leather, and the Serpula distruens, which is not so large, of a reddish colour, and white at the edge growing externally. As the cause of this dry rot proceeds from an excess of vegetable albumen in those woods that have been in modern use for ship-building, we may answer the latter question by saying that the primitive oaks of Great Britain, and those of our country, which were used in the early construction of their navies, were not so rich in albuminous matter as the oaks of secondary growths, and those of various locations, are now; therefore the dry rot and fungous growths in such timbers were not known, nor never would have been, had we the timber now of those primitive forests of our country, Europe, and Great Britain. It will appear, by these observations, that we intend to maintain that the cause of dry rot proceeds from the negligence and want of knowledge in the selection of those trees which resist the effects of time and exposure without the process of decay. Such is our position, and without further comment, we proceed to illustrate many points connected with the subject under consideration, as it is one of the most important to which the attention of a maritime people can be turned.

The oaks of North America, as described by Andrew Michaux, consist of twenty-nine species and varieties, most of which are useful in ship-building; the one considered the most useful, and stands at the head of the list, is the live oak, *Quércus vìrens*. It is a perennial tree, of slow growth, like the rest of its congeners, and is common to Florida, where the most extensive forests of this tree are seen. It is generally found growing from latitude 37° to Florida, "and westward to the mouth of the Sabine River," but never more than fifteen or twenty miles from the sea. This valuable tree can be said to contain less of the causes of decomposition, as albumen, sugar, and starch, than any of the species hitherto described; therefore, it is the most durable, and less liable to decay; and with all this natural immunity against spontaneous decomposition, we should not overlook the locality of its growth, age, and season of cutting for ship timber. This is a necessary precaution, which is applicable to the whole tribe of oaks that are used in the mechanics. The best localities for the selection of durable timber from those trees, are elevated regions, high table lands, and an open country, where they are not overshadowed by other growths. They should stand where there is ample room for their branches, with a free access of air, heat, and light on all sides, as often seen on the boundary of some plantation, or as ornaments which venerate the mansion of the planter, or such like places. The woody fibres of such trees are more dense; they contain more carbon or astringent qualities, with less vegetable albumen: whereas, to the contrary of this, should such timber be cut in low wet grounds, ravines and shady places where they grow compact, it would be liable to decay from the causes mentioned, as there would be an excess of those constituent principles, and a softer structure that would hasten the decay, and cause the dry rot, so deleterious to our navies. The age of the oaks is next to be considered. They generally attain their maximum height and full development at the age of fifty or sixty years, and after that period, they progress but slowly, until they arrive at a very advanced age, as two or three hundred years or more. Those of the live oak that can be best recommended for durable timber, are such as have arrived at the period of a hundred years or more, if the constitutions of the trees are sound, and no visible decay is present. The gigantic growth of this tree at the age last mentioned far surpasses any of its species. The measurement of one of its limbs by myself in a horizontal line exceeded sixty-five feet, while the diameter at the junction exceeded the size of the bodies of many red and black oak species of a full size, or secondary growths that have survived seventy winters. We repeat that the maturity of the species of oaks must be considered before used or appropriated for ship-building; for it is at this period the strength

and durability of the wood are fully developed, and the longitudinal fibres tough and resisting. As the albuminous matter of which we have spoken is a nitrogenized compound, it is of a putrescible nature, and therefore forms food for insects, which penetrate the wood in various directions, admitting air and water to the interior of the timber. It is evident that this chemical action, or fermentative process, must be greatly favoured by external causes, or the location in which the wood is placed. The close apposition and dense mass of timbers that are seen in the hull of a battle-ship of the line on the stocks is considered as favourable to this action, although there are no doubts but what the germs of the disease are lurking in the timbers previous to their use, occasioned by the want of care and suitable selection of appropriate trees, and preservation of the timber after cutting. The local sites of navy yards, where there must be a proper depth of water, unavoidably place the timber in a topographical situation that is unfavourable to the preservation of the wood, as heat and moisture accelerate the chemical action, and promote the fungous growths, whose nutrition depends on the chemical changes heretofore mentioned.

Could we always find a suitable hydrographical station for a navy yard, where, combined with its facilities, there was a dryness and purity of atmosphere, many of the causes that decompose the materials for ship building would be prevented; but as such localities cannot always be found in the surveys for such stations, we must patiently submit to the injurious effects of heat and damp atmosphere, however well guarded the ships may be in their sheltered positions by ventilation and suitable protection; although it is of the highest importance that the geographical situations of such places should be well understood and taken into consideration, as rivers, marshes, bogs, mean standard of the thermometer, barometer, and hygrometer, and mean quantity of rain.

The proper season for cutting such timber will next be considered. The months of July and August, when the trees are in foliage, and the juices circulating freely, is decidedly the best period for cutting; as then the greater portion of the albumen is contained in the cambium or descending sap, while most of the nitrogen is set free by exhalation, and is principally combined with the fluids that circulate exteriorly. The trees, after they are fallen, should be immediately rough hewn, and deprived of their sap-wood and bark, placing the timber in the most favourable situation for seasoning and desiccation by elevating it from the earth. The ordinary process of seasoning wood consists in merely exposing it to a current of air. It would be a desirable thing if we could find a location where a dry air could be naturally maintained throughout the year; but this desideratum could not be easily obtained. The time necessary to season the oaks differs according to the density of the structure—and various dimensions of those woods that are exposed for desiccation; a plank probably would not require twelve months, while a piece of larger dimensions could not be thoroughly seasoned in six or seven years; and if placed in a humid situation, would not season at all, and the result would be a decomposition from the formation of ammoniacal salts and mushroom growths.

To benefit property, and perpetuate the materials for ship-building, we propose that the legislatures of our States appropriate means for the cultivation of those oaks that are indigenous to their regions. In order to ensure success in such an undertaking, a tract of land should be set apart of some thousand acres in a favourable location for their growth. The soil for this purpose should not be too rich nor stimulating: the trees can be propagated from the acorn, or transplanted from their native forests. If the latter plan is adopted, the trees selected for this purpose should be from four to five years of age, of a healthy appearance, and perfect symmetry. We recommend their being taken up in the latter part of October or the month of November, with a careful preservation of their roots, and immediately transferred to the soil that is allotted for their permanent abode. This period for transplanting those trees is decidedly the best, as then the descension of the sap is completed, and the action of the leaves quiescent, while that of the absorbing rootlets ceases also, because the nutrition which is taken in by them is not convertible into woody substance without the coöperation of the leaves. They should be set apart, at proper distances, in such a manner as to have ample room for growth, and the free action of heat and light on all sides. Such parks or nurseries in our States would be more commemorative of the genius of a nation than all the marble monuments and towering edifices that can be erected. This scheme is not only thought worthy of a government's consideration, but is applicable to every individual farmer and landed proprietor in this country. They should be transplanted on the outskirts of every farm or plantation; marking the boundary of their different possessions, by the growth of those sylvan giants that have been the pride of

nations for centuries.—*Magazine of Horticulture.*

Cure for Foundered Horses.—As soon as you find your horse is foundered, bleed him in the neck in proportion to the greatness of the founder. In extreme cases you may bleed him so long as he can stand up. Then draw his head up, as is common in drenching, and with a spoon, put back on his tongue, strong salt until you get him to swallow one pint. Be careful not to let him drink too much. Then anoint round the edges of his hoofs with spirits of turpentine, and your horse will be well in one hour.

A founder pervades every part of the system of a horse. The fleam arrests it from the blood, the salt arrests it from the stomach and bowels, and the spirits of turpentine arrests it from the feet and limbs.

I once rode a hired horse ninety-nine miles in two days, returning him at night the second day; and his owner would not have known that he had been foundered if I had not told him, and his founder was one of the deepest kind.

I once in a travel of seven hundred miles foundered my horse three times, and I do not think my journey was retarded more than one day by the misfortune, having in all cases observed and practiced the above prescription. I have known a foundered horse turned out at night on green feed; in the morning he would be well, having been purged by the green feed. All founders must be attended to immediately.—*S. W. Farmer.*

For the Farmers' Cabinet.

The Soy Bean

Is a native of Japan and of the Molucca islands. It thrives well in New England, having been successfully raised in the Botanic Garden, at Cambridge, and elsewhere in Massachusetts.

It is the *Dolichos Soja*, of Linnæus, or *Soja hispida*, of Moench. It is an annual plant, growing about two feet high, with an erect stem, which, at the top, shows some tendency to twine, and therefore needs the support of a few sticks or brush. The leaves resemble those of the common bush bean, and are borne on long channelled petioles. The flowers are very small, of a reddish colour, and grow in clusters on short peduncles, arising from the axils of the leaves. The pods, when ripe, are rather more than one inch long, compressed, brownish, and rough with stiff hairs. They contain generally two, and sometimes three small roundish and compressed beans, of a dark brown colour.

This plant is very productive. Eight of the beans, planted in Milton, Mass., in 1831, yielded a wine pint of seed, weighing eleven and a half ounces. One hundred and ten of the beans, taken promiscuously, weighed half an ounce. In this proportion, the produce of the eight beans would be 2530, or more than 316 for one. In 1829, a single bean, in the Botanic Garden in Cambridge, produced 182 pods, which, as some of them contained three beans, was more than 364 for one. Should their qualities as articles of food be found agreeable, these beans will become valuable on account of their great productiveness.

The inhabitants of Japan, of China, and Cochin China, and of some parts of India, cultivate these beans extensively, and eat them cooked or prepared in various ways. They make a very important article in the cookery of the Japanese, who use them chiefly in two forms. The first, called *Miso*, is a rich paste, of the consistence of butter, the place of which it supplies in various dishes, and is composed of a mixture of the beans and rice stewed and highly seasoned with salt. The second, called *Sooju* by the Japanese, is the celebrated sauce, known in commerce by the name of *Soy*, and imported in large quantities from the East, the best being brought from Japan. The Japanese method of making *Soy* was described by Kaempfer, in the "*Amoenitates Exoticae*," published in Latin, in 1712. It is as follows: Take of the beans, stewed till they are soft, of coarsely ground wheat or barley, and of salt, equal quantities by measure. Mix the beans and flour together, and put them in a covered vessel, in a warm place, to ferment. Let them stand twenty-four hours; then add the salt, and pour over the mixture two measures and a half of water. This mixture is to be kept covered two or three months, during which period it is to be stirred two or three times a day with a spatula. At the end of this time the mixture is to be strained or filtered, and the expressed liquor is to be put into wooden vessels, and kept some time before used; for it improves in clearness and quality by age. More water is added to the mass which remains, and this, after some days, is also expressed and strained.

Kaempfer says that the Japanese use this sauce to season every dish of fried or roasted food. For fish, beef, and mutton, it forms a very savoury as well as a harmless condiment, the flavour of which is much admired by those who have become accustomed to it; and by many it is preferred to the best Chinese catsup.

The making of *Soy*, as here described, seems to be a very simple process, and the experiment is worth trying. Should it prove successful, the cultivation of the plant in this country, may become profitable. The beans are said to be good when cooked like common kidney beans; but it is doubtful whether they would ever take the place of our best varieties of them.

T. W. H.

Cambridge, Mass., Sept. 18th, 1847.

Prepared Guano.

WHATEVER will enable us to grow *two* blades of grass, or *two* ears of corn, where but *one* could be made to grow before, and that too *without impoverishing the soil*, is highly deserving of notice, and greatly worth knowing. Agriculture is more important to the comfort, well being and happiness of the human race, than all other occupations, and yet it is a science which has, most unaccountably, been more neglected than all other sciences whatever, until of late years. All that we possess in the shape of food, clothing, residences, and luxury in almost every particular, comes directly or indirectly from the soil, and yet we have studied its nature and capabilities less than any other object we are interested in. Had this science been properly attended to, nothing in the shape of *famine*, sweeping myriads into premature graves, would ever have been heard of; but we have foolishly gone on, from generation to generation, exhausting our mother earth, without reflection that, unless we keep up *her* strength, she must shortly become *weak and languid*, and incapable of furnishing the sustenance, we never fail to demand. This folly has at length awakened us to the dictates of *common sense*, and we now see that even Europe is sending its numerous vessels to Africa, Chili, Peru, and almost everywhere in search of *proper sustenance for its soil*. In those countries it has been accumulating for thousands of years, and yet human intelligence has been so bounded, on this very important matter, that those mountains of fertility have been suffered to remain *useless and unnoticed*. Those mounds of abundance, however, are not in a condition to be used in their crude state, as *manure*. The crystallized ammonia forms in bunches, and is therefore much too strong, in this condition, for *any* kind of vegetation, and indeed if it be so employed, it soon *evaporates* and leaves the remains of the guano *weak and worthless*, as an amendment. Here the aid of chemistry is appropriately introduced, not only to retain and preserve the ammonia in the soil, but to moderate its excessively fertilizing effects. The *principles* of guano itself are limited, being chiefly carbonate and phosphate of lime and ammonia; but when it is finely pulverized and chemically combined with *proper* absorbents and other fertilizing substances, as we are aware is the case in the "*Prepared Guano*," now offered for sale, then as a manure or amendment, it becomes equally fertilizing to every description of vegetation, without weakening the soil. In the preparation every principle that vegetation requires, it seems, is added to it, and therefore it supplies every plant with that specific nutriment which it individually needs; whilst the absorbents again re-absorb from the atmosphere what they thus give out, and by this means the "*Prepared Guano*," as a manure, remains almost inexhaustible. For these reasons, and from the recommendations of those who have used it, we recommend it to the particular attention of all of our readers, in any way connected with Agriculture, Horticulture, or Floriculture.—*American Citizen.*

Influence of Horticulture.

THE multiplication of Horticultural Societies is taking place so rapidly of late, in various parts of the country, as to lead one to reflect somewhat on their influence, and that of the art they foster, upon the character of our people.

Most persons, no doubt, look upon them as performing a work of some usefulness and elegance, by promoting the culture of fruits and flowers, and introducing to all parts of the country the finer species of the vegetable productions. In other words, they are thought to add very considerably to the amount of physical gratification which every American citizen endeavours, and has a right to endeavour, to assemble around him.

Granting all the foregoing, we are inclined to claim also, for horticultural pursuits, a political and moral influence vastly more significant and important than the mere gratification of the senses. We think, then, in in a few words, that horticulture and its kindred arts, tend strongly to fix the habits and elevate the character of our whole rural population. One does not need to be much of a philosopher to remark that one of the most striking of our national traits, is the *spirit of unrest*. It is the grand energetic element which leads us to clear vast forests, and settle new States, with a rapidity unparalleled in the world's history; the spirit, possessed with which, our yet comparatively scanty people do not find elbow-room enough in a territory already in their possession, and

vast enough to hold the greatest of ancient empires; which drives the emigrant's wagon across vast sandy deserts to California, and over rocky mountains to Oregon and the Pacific; which builds up a great State like Ohio in thirty years, so populous, civilized and productive, that a bare recital of its growth sounds like a genuine miracle to European ears; and which overruns and takes possession of a whole empire like that of Mexico, while the cabinets of old monarchies are debating whether or not it is necessary to interfere and restore the balance of power in the new world as in the old.

This is the grand and exciting side of the picture. Turn it in another light, and study it, and the effect is by no means so agreeable to the reflective mind. The *spirit of unrest*, followed into the bosom of society, makes of man a feverish being, in whose Tantalus' cup *repose* is the unattainable drop. Unable to take root anywhere, he leads, socially and physically, the uncertain life of a tree transplanted from place to place, and shifted to a different soil every season.

It has been shrewdly said, that what qualities we do not possess are always in our mouths. Our countrymen, it seems to us, are fonder of no one Anglo-Saxon word than the term *settle*. It was the great object of our forefathers to find a proper spot to settle. Every year large numbers of our population from the older States, go west to settle; while those already west *pull up*, with a kind of desperate joy, their yet new-set *stakes*, and go farther west to settle again. So truly national is the word, that all the business of the country, from State debts to the products of a "truck farm," are not satisfactorily adjusted till they are "settled;" and no sooner is a passenger fairly on board one of our river steamers, than he is politely and emphatically invited by a sable representative of its executive power to "call at the captain's office and *settle!*"

Yet, as a people, we are never settled. It is one of the first points that strikes a citizen of the old world, where something of the dignity of repose, as well as the value of action, enters into their ideal of life. De Toqueville says, in speaking of our national trait:

"At first sight, there is something surprising in this strange unrest of so many happy men, restless in the midst of abundance. The spectacle itself is, however, as old as the world. The novelty is to see *a whole people* furnish an exemplification of it.

"In the United States a man builds a house to spend his latter years in, and sells it before the roof is on; he brings a field into tillage, and leaves other men to gather the crops; he embraces a profession and gives it up; he settles in a place which he soon after leaves, in order to carry his changeable longings elsewhere. If his private affairs leave him any leisure, he instantly plunges into the vortex of politics; and if at the end of a year of unremitting labour, he finds he has a few days' vacation, his eager curiosity whirls him over the vast extent of the United States, and he will travel fifteen hundred miles in a few days to shake off his happiness."

Much as we admire the energy of our people, we value no less the love of order, the obedience to law, the security and repose of society, the love of home, and the partiality to localities endeared by birth or association, of which it is in some degree the antagonist. And we are therefore deeply convinced, that whatever tends, without checking due energy of character, but to develope along with it certain virtues that will keep it within due bounds, may be looked upon as a boon to the nation.

Now the difference between the son of Ishmael, who lives in tents, and that man who has the strongest attachment to the home of his fathers, is, in the beginning, one mainly of outward circumstances. He whose sole property is a tent and a camel, whose ties to one spot are no stronger than the cords which confine his habitation to the sandy floor of the desert, who can break up his encampment at an hour's notice, and choose a new and equally agreeable site, fifty miles distant, the next day—such a person is very little likely to become much more strongly attached to any one spot of earth than another.

The condition of a western emigrant is not greatly dissimilar. That long covered wagon, which is the Noah's ark of his preservation, is also the concrete essence of house and home to him. He emigrates, he "squats," he "locates," but before he can be fairly said to have a fixed home, the spirit of unrest besets him; he sells his "diggins," to some less adventurous pioneer, and *tackling* the wagon of the wilderness, migrates once more.

It must not be supposed, large as is the infusion of restlessness into our people, that there are not also large exceptions to the general rule. Else there would never be growing villages and prosperous towns. Nay, it cannot be overlooked by a careful observer, that the tendency to "settle" is slowly but gradually on the increase, and that there is, in all the older portions of the country, growing evidence that the Anglo-Saxon love of home is gradually developing itself out of the Anglo-American love of change.

It is not difficult to see how strongly horticulture contributes to the development of local attachments. In it lies the most powerful *philtre* that civilized man has yet found to charm him to one spot of earth. It transforms what is only a tame meadow and a bleak aspect, into an Eden of interest and delights. It makes all the difference between "Araby the blest," and a pine barren. It gives a bit of soil, too insignificant to find a place in the geography of the earth's surface, such an importance in the eyes of its possessor, that he finds it more attractive than countless acres of unknown and unexplored "territory." In other words, it contains the mind and soul of the man, materialized in many of the fairest and richest forms of nature, so that he looks upon it as tearing himself up, root and branch, to ask him to move a mile to the right or the left. Do we need to say more, to prove that it is the panacea that really "settles" mankind!

It is not, therefore, without much pleasurable emotion, that we have had notice lately of the formation of five new horticultural societies, the last at St. Louis, and most of them west of the Alleghanies. Whoever lives to see the end of the next cycle of our race, will see the great valleys of the west the garden of the world, and we watch with interest the first development, in the midst of the busy fermentation of its active masses, of that beautiful and quiet spirit, of the joint culture of the earth and the heart, that is destined to give a tone to the future character of its untold millions.

The increased love of home and the garden, in the older States, is a matter of every day remark; and it is not a little curious, that just in proportion to the intelligence and *settled* character of its population, is the amount of interest manifested in horticulture. Thus, the three most settled of the original States, we suppose to be Massachusetts, New York and Pennsylvania; and in these States horticulture is more eagerly pursued than in any others. The first named State has now seven horticultural societies; the second, five; the third, three. Following out the comparison in the cities, we should say that Boston has the most settled population, Philadelphia the next, and New York the least so of any city in the Union; and it is well known that the horticultural society of Boston is at this moment the most energetic one in the country, and that it is stimulated by the interest excited by societies in all its neighbouring towns. The Philadelphia society is exceedingly prosperous; while in New York we regret to say, that the numerous efforts that have been made to establish a society of this kind have not, up to this time, resulted in any success whatever. Its mighty tide of people is as yet too much possessed with the spirit of business and of unrest.—*Downing's Horticulturist.*

For the Farmers' Cabinet.

Farm of Mr. Bell.

STATEMENTS like the following, are to me exceedingly interesting, and if our farmers would much more frequently give them, the cause of agriculture would not only be benefitted, but much additional interest would be thrown around it. What statements, for instance, that have appeared in the Cabinet, have been read with more interest than those occasionally given by James Gowen?

L.

"The farm occupied by Mr. Thomas Bell, is situated in Morrisania, near New York, and comprises about 400 acres, being a part of the domain of William H. Morris, Esq. The present season 100 acres have been cropped with hay, 40 acres with Indian corn, 18 acres with wheat, 12 acres with oats, 6 acres with rye, 5 acres with turnips, 3 acres with potatoes, and 10 acres with corn, sown broadcast, or in drills, for soiling; the remainder lying in pasture or fallow. There are also on the place 25 acres of orchard, principally Newtown pippin trees, from which were sold last year 400 barrels of apples and 200 barrels of cider.

The stock of the farm consists of 75 cows, 52 of which give milk, two Durham bulls, 25 heifers, 6 working oxen, 6 horses for labour, 12 sheep of Bakewell or Leicester grade, and 50 or 60 hogs and pigs.

On the 16th of July last, the field crops all looked well, which was doubtless owing, in a great measure, to superior management. The wheat was in the act of harvesting, and bid fair to yield 25 or 30 bushels to the acre. It was grown on land that had remained in fallow for many years; that is, a scanty pasture, interspersed with alders, dwarf cedars, wild grasses, &c. The ground was ploughed twice in the summer of 1846, and previous to sowing, 25 loads of compost, made of swale or pond mud, mixed and fermented in the heap with barnyard manure, were applied to each acre. The field in which this wheat was grown, at present is in excellent condition for laying down to grass, or for the cultivation of almost any kind of crop.

The fields of Indian corn, in general, looked vigorous, dark-coloured, and were just in tassel, although the land varied in character, and had been differently tilled. We were particularly struck with the vigor

of one field of eight acres, to which had been applied broadcast, 400 loads, of fifty bushels each, of swale muck, mixed with five hundred bushels of oyster-shell lime. Another field of six acres, which previously had been cropped with grain, was manured with coal ashes, a pint to a hill, and looked well.

Mr. Bell practises the system of soiling in part, particularly with his milch-cows, and highly approves of the plan. He sells, upon an average, in this city, 500 quarts of milk per day, which amounts to more than $7000 a year. From the milk of one cow alone, he realized $530 in two years, notwithstanding she had a calf within the time, but was never dry.

Mr. Bell's bull is a thorough bred Short-horn, imported from the celebrated herd of the late Earl Spencer. He is a superb animal, and has taken several prizes, as the first in his class, at the exhibitions of the New York State Agricultural Society and the American Institute.

Several of his cows are also thorough-bred Short-horns; but most of his herd consists of high grades, a cross of his bull, Marius, with some of our best native stock. Of this cross, we observed fifteen beautiful yearling heifers, of great promise, which were so docile that they could be approached and handled by any one who chose. This gentleness Mr. Bell attributes to the early attachment they acquired by bringing them up by hand when calves. The first three weeks following their birth they were allowed to suckle the cow, after which they were fed a few weeks on skim-milk, and then turned out to grass. This kind of treatment, no doubt, has a tendency to soften their dispositions, and greatly contributes to their gentleness when they come to be cows.

While looking at the herd, it was remarked by Mr. Bell, that every cow, without exception, which had broad *escutcheons*, or *quirls*, formed by the meeting of the hair that points in different directions on the posterior parts of the animal, *wide apart*, were good milkers; but this proves nothing further than it goes, as his premium cow, Shaker, the best in the herd, has but a trifling development of this point, being the one from which he realized $530 in two years by the sale of her milk.

Mr. Bell is evidently a thorough-bred farmer, which is manifest from the characteristic neatness and excellent management of every part of his farm. He superintends in person, and puts on record most of the operations of the dairy, the farm-yard, and of the field, and is up and doing from early dawn to late at night. He keeps an account of his receipts and expenditures, which, at the end of the year, it is highly desirable he should make known to the public."

The Potatoe Rot in Ohio.

There is reason to fear that a large proportion of the present potatoe crop in this State will be destroyed by that mysterious malady the *rot*. In our recent trip we passed through portions of nine different counties, extending northward from this place to the Lake, and in every one of these we saw evidences of the disease—though in some cases it was only just beginning to manifest itself, and was not yet known to exist by the owners.

We also learn by letters and our exchanges that eastward in Coshocton county, and westward in Montgomery, and in Hamilton, the rot has made its appearance and is rapidly destroying the crop in some places, exciting much inquiry and apprehension among the farmers and others. Even our own "little farm" has not escaped, and where we expected to have several hundred bushels for market, it is doubtful whether we shall save enough healthy tubers for our own *family use*.

The first indications of the disease, is the leaves turning black—not all at once, as by frost, but gradually and in spots, leaving some leaves on the top of the stems, or a whole stem or hill looking healthy for a time, but not long. The tubers in the mean time cease growing, become watery and discoloured, and soon begin to decay, especially when dug.

Mowing off the tops, as soon as the disease begins to appear, is recommended by some, as the best means of preserving the crop. This remedy is founded on the belief that the disease *commences in the tops*. But this has not yet been proven, nor have we seen accounts of sufficient experiments to induce us to put much faith in the remedy; though we shall give it a trial, and we advise others to do the same.

One of our correspondents suggests, in addition to cutting off the tops, putting a small quantity of ashes on each hill.

With all the expenditure of labour, money, and scientific research that has been devoted to this subject in Europe for the past three years, absolutely *nothing* has as yet been made known in relation to the cause or prevention of this "potatoe rot." Still we should not thereby be deterred from observing and making known all the facts that can be ascertained on the subject; and we therefore request such of our readers as try experiments, or make any supposed discoveries

in relation to it, to send us minute accounts of the same; and such as appear at all new or important, will be given to the public.—*Ohio Cultivator.*

French Farming.

The general surface of France has by no means that richness of rural aspect which every traveller remarks in England. This is owing, in some measure, to the more monotonous surface of the country; for while England is broken up into vast variety, by plain, valley, wood, height, glen, and gently undulating land, France, for the most part, presents a succession of vast waving plains, here and there channelled by slow running rivers, or traversed by lines of mountains. It is modelled upon a more gigantic scale than England. Its rivers are longer; its distances are more vast; and its hills, though perhaps not higher than British hills, are more sweeping in their forms, and less striking in outlines. Exception, however, is to be made in favour of a large portion of Brittany, the valley of the Seine, in its progress through Normandy, the country of the Auvergne, and that part of Burgundy adjoining the Juras.

Not only, however, is it in variety of surface, that England surpasses France, but in those country adornments, which make up the pleasing rural aspect of the British isles. The French farm house, though substantially built of stone, and stuccoed, and convenient in its interior arrangements, has nowhere the prettily thatched roof, the embowering vines, the rich shade trees, the encircling bit of turf, the scattered flowers, the latticed windows, which belong to the English cottage. Add to this the unattractiveness of its situation, upon the middle of some broad plain—instead of quiet nook or valley, or pleasant knoll—so common to English landscape, and one may readily imagine the superior beauty of the island farmery.

Again, the French cottage, in most situations, has few or no hedges. Its offices are all thrown together within one common enclosure of high stone walls. From the road, you enter by a large gateway into a slattern court, about which carts are dropped here and there, and poultry scratching in the accumulated dirt, and swine, perhaps, rooting about the stagnant pool in the middle. On one side of this court will be the doors and windows of the farm-house—its walls white, where not befouled with dirt—its roof of heavy red tiles, and its chimney stiff and clumsy. There is no vine beside the door—not even a rose tree, or violet, or morning glory; but there is a studied neglect of these little charms which would not do discredit to many New England farmers. The sun shines hotly upon the white walls, and upon the red roofs of the offices by its side.

Sheds of timber, and roofed with tiles, stretch around upon another side of the court, for the animals and best constructed implements. A barn and granary of the same sort of construction lie upon the third side of the court, and the entrance gate, with its high flanking wall, make up the fourth.

In the more pretending establishments, the farm-house stands removed from the common court of the farmery, and connects with it by a little wing thrown back upon the offices.

The garden adjoins the enclosure, with its skirt of fruit trees, stragglingly disposed, except in the orchard provinces, where their disposition is neat and beautiful.

Fences, in the plain country—the country most seen by the casual traveller—are very rare; neither hedge, or ditch, or wall, and the junction of farms or estates is designated by rows of trees, or mere ridges of turf. In the vine-growing countries, particularly such as furnish the best wines, as Medoc and Burgundy, division of property is marked simply by lines of vines, and size of vineyards is reckoned only by the number of lines.

The great roads are broad and macadamized, with frequently a strip of grass land upon either side, which is depastured by cows tethered to stakes, or by sheep under guardianship of dogs. Rows of trees border the way, and beyond are yellow, broad-waving fields of grain, barley and wheat; or perhaps the land is covered with a light grass, on which immense flocks of sheep are feeding. The first may be seen on the route to the east, leading through Auxerre; the sheep abound toward Chateauroux.

Again, upon the best of the grass meadows, eastward toward Dijon and Dole, you may see great herds of cattle, or in the valley of Limousin you will see scores of horses.

Turning away from the great routes, one finds little bye-lanes, which, with their trees and occasional hedge rows, will remind of England. The farm-houses, too, upon the cross country roads, while they are more unpretending in aspect, have more of that rural simplicity which makes much of the charm of an English cottage.

The canals, stretching over the plains, are not unfrequently gracefully shaded with willows, or lindens, and the sight of their shining surface, glimmering through a copse, the high-collared, heavy Norman horse, toiling along the tow-path—the quaintly clad la-

bourers, singing at their work in the fields,—with the cone-topped towers of some old chateau lifting behind the wood, make up a fresh bit of French picturing in my mind.

Gentlemen's seats, with lawn, and gate lodge, and park enclosure, and troops of deer, come rarely under the eye in France. The French character is not prone to ruralities. Even the amusements of the peasantry partake of a civilian character; dancing, and music, and gallantries of speech, relieve the tedium of field labour, in place of cricket, or bathing, or fishing. Nor is it easy to find a French peasant who does not wear a courteous air. Even the old woman of the little auberge, where you stop to lunch, receives you with a ready *politesse*, that in the country districts of New York would pass for city breeding.—*Cultivator.*

Farming in Western New York.

Mr. John Johnston's farm partly adjoins Mr. Delafield's. Considering the disadvantages under which Mr. J. commenced operations here, his success has been quite remarkable. He came from Scotland twenty-six years ago, and first purchased 120 acres of the farm on which he now lives. The land was so worn down by bad management that he was laughed at for buying it, and even the man of whom he bought, frankly told him it would "bear nothing." Not in the least discouraged, however, Mr. J. began, *fully determined*, as he says, that he would make himself *independent*. His first crops, as was expected, were light; but they gradually increased, till by the fourth year they were so heavy as to attract the particular attention of his neighbours, who had prophesied so unfavourably. In the course of a few years, he began to realize the fruits of his labours, and seeing the prospect opening brightly, he sent to Scotland for his family. His farming continued to be more and more profitable. Having paid for the first lot of land, he bought more, and continued to make additional purchases till he has now 306 acres in his home farm, and a farm of 200 acres in Yates county,—all paid for and in a good state of improvement. Mr. J. therefore, now finds himself in the comfortable state of "independence," for which he started twenty-six years ago, with such a firm determination of reaching. It is an important fact, too, as well as agreeable reflection, that he has reached this position unaided by speculation, having had no resource of consequence but his hands and his farm.

Mr. Johnston's principal products have been wheat and wool. His soil is naturally good, but has been greatly improved by sheep, which, with the adjuncts of deep and thorough tillage, have been the chief instruments in producing larger crops of wheat, on the average, than have been obtained from any other farm within our knowledge. He usually has from fifty to eighty acres of wheat in a season. His last three crops,—for 1844, '45, and '46,—averaged thirty and a third bushels per acre. The crop of the present year appeared well, for the most part, though like crops in general, it was somewhat injured by the winter on that portion of the farm which has not been drained.

The soil of this location, belongs, geologically, to the Hamilton shales. Its composition appears to be of the best character for the production of wheat. Its excellence is not, like most soils, confined chiefly to the surface, but the earth to the depth of several feet, or in some instances, to the underlaying rocks, is equally fertile, after due exposure to the air. In several instances, we noticed on Mr. Johnston's and Mr. Delafield's farms, that where ditches and drains had been dug, and the earth which had been taken out was spread over the surface, the wheat, barley, and oats were heavier than in other parts of the field. In a field of barley, a ditch had been dug and the earth left unspread on its banks. The crop was decidedly more luxuriant on the bank of this ditch than in any other place.

Effects of Lime and Ashes.—Mr. Johnston has frequently tried wood ashes on his land, but could never perceive any effect from them. He has also made frequent use of lime, and with marked advantage. He showed us three ridges or lands in wheat, the two outside ones of which were limed, and the centre was not limed. The superior stoutness of the crop on the limed lands was obvious. Is there any theory which will account for the beneficial action of lime and the failure of ashes in this case? The soil evidently abounds in lime—it rests on limestone, and loose limestones are mixed more or less through its surface. The earth taken at various depths, from a few inches to two and a half feet, effervesces strongly in acids, showing that lime is one of its prominent ingredients; and yet on this very soil burnt lime produces extraordinary effects. This is not a solitary instance of the operation of lime in similar circumstances; we have known several such, and Mr. Colman informs us that in Europe the best action of lime is frequently on limestone soils.

Mr. J. prefers applying his barn-yard manures in the spring, to sward ground, which is either to be planted to corn or used as fallow. The manure is spread and ploughed in. As it is of a coarse nature, and in an

unfermented state, and applied in pretty heavy dressings, it is difficult to dispose of it without covering it with the plough. He has nineteen acres of Indian corn, planted on sod,—with Emery's seed planter,—which we thought as promising in appearance as any we had seen this season. His fallows are worked very thoroughly. He takes special care that no weeds or grass shall grow on them, frequently going over the fields with harrows or cultivators. They are always ploughed twice, and sometimes more, and at the latter ploughings the soil is cut into fine furrows, not less than seven and sometimes nine inches deep. This frequent working is undoubtedly of great advantage to this stiff soil.

His sheep have formerly been from 1,000 to 1,200 in number. Lately, however, he has substituted cattle for sheep to a considerable extent. He has at present sixty head of cattle, forty of which are three years' old steers, bought last fall and fed through the winter in the barn-yard on straw, oil-cake, and corn-and-cob meal. They are to be turned off for beef whenever the market is most favourable. Mr. J. thinks the feeding of cattle in this way has some advantages over keeping sheep. He can buy the steers in the fall and generally sell them in the spring, during which time they will have consumed a large portion of his straw, and with the other food that will have been given them, will be fat. The summering of the stock is thus avoided, and Mr. J. thinks he will have more manure, which is a great object with him, than he could make by devoting his farm as much as he formerly did to sheep.

Superior Cow.—Among Mr. J.'s cows, several of which were full blood Short-horns, we particularly noticed a half-blood cow, five years old, which had produced her second calf about five weeks before. Seeing that she was really a fine animal, and had the appearance of an uncommon milker, we made inquiries in regard to her. Mr. J. told us that she had been regularly milked three times a day, since she calved. When the calf was about two weeks old, the milk of the cow was carefully measured for several days, and found to range from thirty-six to forty-two wine quarts per day. She is a well formed and thrifty cow, and notwithstanding the very great quantity of milk she afforded, was in good flesh.

Under-draining.—Mr. Johnston is of opinion that the winter-killing of wheat is caused by too great a retention of water in the soil and subsoil. In this we fully agree with him. To obviate the evil he has resorted to under-draining with tiles, of which he has laid 700 rods. The tiles are made by Mr. Whartenby, of Waterloo, after a pattern procured by Mr. J., from Scotland. They cost at the kiln twenty cents per rod. The drains are dug about two and a half feet deep, or so low that the water does not come up through the bottom. The digging costs from eight to ten cents per rod, making the whole cost of the drains, including the carriage from the kiln, about thirty cents per rod. The tiles appear to be made in the best manner. They are not in the least injured by the weather, even when exposed to the most severe frost. Where the bottom of the ditch is firm, the tiles are placed immediately on it; if the ground is soft, a hemlock board is laid down, on which the tiles are placed. A little straw is laid over the tiles and the earth which had been excavated is then thrown on.

The beneficial effects of draining on Mr. Johnston's farm are very apparent. Places which formerly would bear no wheat, nor indeed scarcely anything but a kind of sour grass and reeds, are made, merely by draining, to produce the finest crops of every description of grain. He is so well convinced of the advantages of the practice, that he has laid 400 rods the present season, and intends to continue it still more extensively.

Mr. J. is now beginning to turn his attention, more than he has formerly been able to do, to the improvement of his buildings and fences. Along the roads, he is removing the rail fences, and substituting for them neat and substantial board ones; and he is preparing to remodel and repair his barns.

Col. Sherwood's farm, at Auburn, consists of 300 acres. From the state in which it came into Col. S.'s possession, he has been obliged to begin at the foundation, and proceed in most respects as if it were a new farm. He has not yet had time enough to bring everything into the most desirable state, though he has made many important improvements, especially in buildings and fences. His farm is laid out in a very convenient manner, and can be managed with as much facility as any farm within our knowledge. He has devoted much attention to the improvement of live stock, and his herd of Short-horn cattle, and flocks of Merino and South-down sheep, are distinguished as among the best in the country. Of swine, he has Berkshires and Suffolks.

Col. Sherwood's crops this season, are forty acres of wheat, most of which we thought very good; four and a half acres of Multicole rye, which looked fair for a very heavy crop; fifteen acres of barley; twenty-two acres of Indian corn; four and a half acres of oats; four and a half acres of peas;

and about three acres in various kinds of vegetables.

His land, like much of that in western New York, is much benefitted by deep tillage. He has this season broken up thirty acres of sward to the depth of nine to ten inches. His teams for doing this have been a pair of heavy oxen and a pair of heavy horses to each plough. This land, after having been thoroughly worked several times with a steel-tooth cultivator, is to be sown to wheat in autumn.—*Cultivator.*

For the Farmers' Cabinet.

The Principle of Draught.

It seems an almost universal opinion, that the nearer the horse is attached to the load, the lighter will be the draught; for then, the horse by lifting, is enabled to overcome a considerable portion of the "downward weight of friction." And this is prettily exemplified in the child who, when the fore-wheels of his little wagon have dropped into a hollow, steps back, and shortening his hold on the tongue of the wagon, lifts the wheels; and he is then enabled to drag it out easily enough. Still, however, a medium is to be observed, for the horse is oftentimes placed so far back and tight in his gearing, as not to be able to apply his whole strength to the object; as we daily witness.

But this view of the case cannot be made to apply to the operation of ploughing, for there, all lifting is to be deprecated; although the shortening of the draught, by means of the clevis and traces, as well as the backbands, is strenuously defended and universally practised; than which, there cannot be a more egregious error. In the first place, the plough must be set so as to *swim*, without the smallest tendency either to rise or sink; and then it is of no importance what might be the length from the clevis at the head of the plough to the swingle tree; it may even be doubled, without adding an ounce to the draught of the plough, which has merely to be drawn forward at the properly adjusted depth.

The Scotch are supposed to be the best ploughmen in the world, but although I may not be ready to admit this to its full extent, they have convinced themselves of the correctness of this theory, and always use a considerable length of single chain on the head of the plough; by which means they are enabled to obtain a far more easily directed leverage, and to guide the plough with greater facility as well as accuracy, without, let me repeat, increasing the draught a single ounce. And I have observed, that many of the Prouty & Mears ploughs have a swivel and link attached to the head, which lengthens the draught about five or six inches; but I have abundant reason to know, that so far from the draught being increased thereby, it is very much reduced, by the ease with which the ploughmen are enabled to guide them; and at the same time, one-half the inconvenience arising from the hugging or bearing away of the land-horse, is obviated by the additional length of leverage and the steadiness obtained by the use of the swivel. And I am convinced also, that if this link and swivel were to be increased to the length of a foot or even more, the dynamometer would not show that the draught had been at all increased, provided the plough has been properly adjusted by means of the clevis, or the vertical screw, as in their ploughs of modern structure, so as to exhibit no tendency either to rise or sink in the ground. This is a subject of much importance, but so far as I know, but little understood and less attended to. Would your practical readers put it to the test of experiment?

R.

Burlington, N. J.

From Downing's Horticulturist.

Culture of the Peach Tree.

Mr. Downing,—As I deem the results of experiments in horticulture of more general interest than the promulgation of theories, I venture to send you some brief notes of my experience in the cultivation of the peach tree.

In your valuable standard work on fruits, you have, I think, proved very plainly that the disease of the peach tree, called the *yellows*, is caused by bad cultivation in a light or poor soil. I am very well convinced that other maladies to which this fruit tree is subject, are the result of the same causes. It is the common and popular belief, that the peach tree should always be planted in a light sandy soil; nay, that a thin sandy loam is the best for it. I suppose this opinion has arisen from the circumstance of the low price at which many tracts of land in New Jersey, Delaware, and Maryland, can be turned into peach orchards, and that too *profitably*.

But it is well known, that there peach orchards are short-lived. From three to five years is their average duration, and most planters do not expect to get more than one or two crops of fruit from their trees. They then give them up as diseased or worn out, and plant new orchards.

It is well known, also, that such is not the natural duration of the peach tree; that in the deep soil of the Ohio the trees bear

and grow well from ten to twenty years; and the natural existence of the peach tree in our climate, is at least a dozen years of fruitfulness.

What I gathered some years ago from this reasoning is, that we make a mistake in this part of the Union, when we plant orchards with the expectation of raising the *finest fruit*, or *healthy long-lived trees* on *light thin soil.*

It is my own belief, based on some little observation and practice, that no soil will grow the best peaches, i. e. the largest and finest flavoured—except it is good *wheat land.*

I have some land in this county of the character usually selected for peach orchards, and I have grown a limited orchard for many years past, with the usual success, viz., tolerable fruit and short-lived trees. About eight years ago, after visiting a neighbour in the upper part of New Jersey, where the soil is good strong wheat land, I determined to change my plan of raising them altogether. I considered that we mistook the nature of this fruit tree; that it really requires more generous culture.

Choosing a tolerably good field on my farm, I set about preparing it for an orchard. This was in October. It was on a fair sandy loam, rather light, on a subsoil of gravelly loam.

My idea was to deepen and enrich the soil of this field before planting the trees. It is not, I believe, considered well to subsoil where the underlayer is gravel. But I made the experiment nevertheless, as it was, I thought, my only chance for decided success.

The trees in this orchard were to be planted sixteen feet apart. As labour and manure were both of consequence to me, I determined to make my first experiment by subsoiling only half the area to be set out with trees.

This I did by ploughing and thoroughly subsoiling straight strips across the whole field, eight feet wide. The subsoil plough followed after the common plough, and had two yoke of cattle to draw it. By this means I loosened and stirred up the gravelly substratum to the depth of sixteen inches; it became, also, considerably mingled with the top soil. The land was in tolerably good order, but I had it dressed with a strong lime compost,—lime and peat,—just before the subsoiling was begun.

The remaining strips of the field were simply ploughed in the common way, and the whole harrowed together.

I then planted the rows of trees as nearly as I could, in lines running through the middle of the subsoiled strips. This gave them a prepared surface four feet wide on each side, and sixteen feet in the row from tree to tree.

The trees grew more vigorously the first season after transplanting, than I ever saw any do before. Here and there as I saw a sickly looking one, during this and the next two years, I immediately took it out, and filled its place with another of healthy growth.

The result of my experiment has been most satisfactory. The orchard is in excellent health and a good bearing state, though it has been in bearing now to the sixth year. The *flavor* of the peaches raised in it, is *much finer than I have ever raised* otherwise in the same soil. And a small orchard set a year since on a joining farm, in a soil quite like my own, but planted in the ordinary way—that is on thin light soil, unprepared, bore its two crops of fruit, then failed, and had to be rooted out.

There is no doubt but my success would have been more complete if I had subsoiled the *whole* of the land. This I could not afford to do at the time, but those having capital would of course do so. I remarked during the first three years, when I raised root crops in my orchard, that the growth of the crops was a great deal finer, and the yield nearly a third more on the strips that were prepared or subsoiled, than on those that were only surface ploughed.

Your readers may draw their own conclusions. I will add, before finishing my letter, that after some little practice, I am strongly in favour of the mode of *shortening in* the peach, which you have so strongly urged upon all cultivators of this fruit. It appears to me to be a great improvement upon all other modes of pruning the peach tree.

Your friend, S.

Bucks co., Pa., Sept., 1847.

Smoked Mutton.—The Editor of the Tennessee Farmer declares his preference for the ovine over the bovine or the swinish race. He says on his knowledge of physiology,—which none will dispute,—that a pound of lean, tender mutton, can be procured for half the cost of the same quantity of fat pork; and that it is infinitely healthier, in summer, especially; and that those who feed on it becomes more muscular, and can do more work on it, with more ease to themselves. He knows of nothing more delicious than smoked mutton hams.

To cure scratches on a horse, wash the legs with warm soapsuds, and then with beef brine.

For the Farmers' Cabinet.

Remarks on the Potatoe Disease.

Mr. Editor,—I send you a short paper on the Rot, with such remarks as have occurred to me in the course of my examination of this important subject. We wish it to be understood that we offer no theory, as to the cause of this destructive disease, but confine ourselves to the simpler and modest duty, of finding materials for the examination and speculation of others better fitted for a study of the laws of nature. The subject has been already sufficiently perplexed with the superficial opinions of persons not suited by their habits of mind for critical and accurate remark, and already too much overloaded with the hasty and crude ideas of those who had no appreciation of the difficulties of the case. To know anything of those wonderful movements going on around us, requires something more than the mere observation of that which passes before us. To attain even a remote idea of the secret and mysterious movements of nature, exacts laborious and profound study, but to rise to the discovery and understanding of a cause, requires powers of mind with which very few are gifted. The disease before us has had nearly as many causes as it has had observers. At one time it was honey dew, then a fungus, then again an insect; and then an unseasonable change of temperature. All these the philosophic mind will put aside, and proceed to the examination of the subject, unbiassed, if possible, by any preconceived opinions. We believe the matter is now in charge of those who will give it the fullest and severest examination. It has been taken up by some of the governments of Europe; they have called to their aid their foremost men of science, and there is no doubt that all the resources of chemistry, and of every other science that can bear on this disease, will be immediately and thoroughly put in action. It has assumed, besides its importance in the economy of nations, a political interest, that very naturally excites the dread of those countries whose population cannot extend itself; where there is only soil enough to cover the dead, but none to spare to feed the living. These old governments of Europe fear a collision with a starving people—a shock to their political authority—a depopulation of their dominions. This country, more fortunate and more flourishing, has her share in the disaster, though from the immense extent of her territory and a great variety of climate, she has little to dread from an epidemic among her crops; yet in proportion to the failure abroad, will be the pressure on the energies of her people, as she must either feed the subjects of foreign countries in their own homes, by the usual mode of commercial exchange, or she must feed them in large numbers, as paupers, on her own shores. In this way, this disease in a vegetable so humble as the potatoe, has risen to such importance as to decide the life or death of millions, and to disturb the career of empires. It is to be hoped then, that those engaged in this interesting investigation, will be able to discover, not only a cause, but what is of far more importance, a remedy.

It is not part of our duty to give a history of this disease. From a pamphlet published by a distinguished man of science in Europe, a portion of which was translated at the request of this Society, and published in vol. ix. of the Farmers' Cabinet, it appears that the potatoe is liable to various diseases, but that this one, known as rot, was first described in 1769. It made its appearance in different parts of Germany in that year, and in 1783 and 1784. In the present century, it first appeared in France and Germany, in 1830; from that time it has gradually gone on extending itself, and has at length become so virulent and dangerous, as to create universal alarm. We presume that this is the same disease that is now ravaging parts of Europe, and the same we have seen in this country. The author of this pamphlet gives no one cause as producing this disease. He assigns several influences that may nave assist in causing it, but very properly gives no one, as the direct and immediate agent in its creation. A fungus—an insect—foggy and moist weather, are spoken of as probably having some effect in calling it forth, but rather as aiding, than as causing. There seems but one condition generally applicable, which was the setting of cuttings, instead of the whole vegetable. With this exception, there does not appear any one condition common and uniform in this disease. On this side of the Atlantic it is said to have appeared first in Nova Scotia; in this part of the United States it did not show itself, or did not attract attention till 1843. In that year a few farmers lost their crops. From that time to the present, it has continued among us, seriously injuring, though not entirely destroying the crop. In parts of New York and New England, the disease has been more extensive and more active. One point we have been particularly desirous of examining; what changes of temperature took place at the time when the disease was first indicated. We, of course, as already mentioned, have avoided being influenced by any preconceived impressions of the agency of any one cause, but in a matter of

this sort, it is necessary to consider all that is likely to affect the growth of the plant under examination, and there is no one element in the whole subject of more interest or importance, than that of the atmospheric changes which occurred at the particular time when the disease first appeared. From all the evidence that we can find in this country and in Europe, it seems that every thing connected with the growth of the potatoe had a remarkably flourishing appearance up to a certain period. In England and Ireland, this was in July; in this country, in August. That there then took place a sudden change in the weather, from a natural and genial state, to one damp and foggy, which, no doubt, if it did not check vegetation, produced a very strong predisposition to disease. Whether this was the case in every quarter where the disease has appeared, we have no means of ascertaining, but it seems to have been the prevailing state of the climate in those parts with which we are the most familiar, and in which we have the most interest. We are much inclined to think, however, that although this may have been a very active predisposing cause to disease, yet that it was not the only or the real source of the disease. What the crop might have been, if this atmospheric change had not occurred, is a mere matter of conjecture, but the alteration in the character of the vegetation and in the growth of the plant, was too sudden to be consistent with a perfectly healthy condition. A strong vegetable in an advanced period of its growth would be able to resist these vicissitudes of temperature, and would not, we think, so readily and so universally give way to them. It seems to us to argue a delicacy in the seed, something feeble in that power which causes the plant to germinate and continues it in growth to its maturity. We observe in some of the English agricultural periodicals that the rot is ascribed solely to the seed employed, being that of tubers which had already sprouted, either from too great a mildness of the winter, or from having been badly preserved through that season. Whether this assertion could be true, so far as respects nearly all Ireland, large parts of England, and considerable portions of the continent of Europe, we have no means of knowing; but it seems, though a very plausible cause, yet not sufficiently comprehensive to be universally applicable, and we are very sure that few farmers in this country would allow it to be any reason at all for the rot reaching their fields. In collecting every fact and circumstance, whether from earth or air, that could bear at all on this mysterious subject, we have been struck in the progress of our investigation with one remarkable coincidence as to the prevailing nature of the seasons in this country and in Europe. From the first appearance of this disease, the winters are said to have been mild and open, the springs cold and backward, portions of the summer hot and dry, followed by a sudden change to wet and foggy weather. This certainly must not be overlooked in making up our judgments. There is no doubt that such ungenial vicissitudes would produce a very unhealthy vegetation, but we cannot take it as the only operative cause, unless it could be proved that the crop was destroyed throughout the whole country, where this weather prevailed, instead of being injured in some quarters, while others escaped, though the circumstances in each case were the same. It should be borne in mind that the potatoe has been always liable to disease. The curl and the scab have in their day prevailed so extensively as to create nearly as much alarm as the rot of our times. They have also occasioned nearly as much perplexity to the farmer, physiologist, philanthropist, and philosopher, though not as much to the politician. All kinds of causes have been brought forward to account for their appearance, the same as now. Too little heat, and too much moisture; fungi, invisible insects, the setting of too ripe tubers; everything that could be suggested or conjectured, was at once thrown out as a cause, but the whole remained as deep a mystery as ever. In those parts of England and Scotland where they most prevailed, a check was put to their ravages by a change of seed. The lowland farmer procured his from the cold and sterile moors of the highlands. And the English farmer from some district at a distance. This was the practical and sensible conduct of men who did not feel the alarm of the present devastation, who did not stop to speculate as to causes, but who saw that the best remedy was to rid themselves of a diseased vegetable, and put in its place one that was healthy. In France, where this rot has been very general, the men of science appear as much at a loss to assign a cause, as in England or in this country. They have brought forward in turn, the same series of causes that we have heard of here, with one additional new one, that of a strong wind. Though they have failed so far in discovering any satisfactory source of the malady, they have, with great scientific skill and nicety analyzed all its effects. But it would be of no interest to report these, as they have as yet led to no uniform conclusion. Each of the gentlemen engaged in these analyses has thrown out his conjecture, but these seem

little more than the indulging freedom of thought and speculation, in a matter where nature baffles us with her usual variety of strange and various action. They have, however, proceeded further, we believe, than anywhere else, in certain practical experiments of an important character, whose object was to prove how far the potatoe, in different states of the rot, could be employed as food for men or animals, without the chance of producing some of those dangerous epidemics that have occasionally arisen from the use of diseased vegetables. That which ravaged the south of France many years ago, from the use of the ergot of rye as food, was a strong evidence of the hazard that was run in employing vegetables in a state of disease. All the experiments showed, however, that there was no risk from the potatoe. It fattened sheep, and it was eaten cooked in the usual way, and the water in which it was boiled drank with impunity. We can hardly conceive this to have been done, when the vegetable was in the last degree of putrefaction. It would not then have been a potatoe, or what we usually call such, but a mass of matter, disorganized by disease, and utterly incapable of affording nourishment, though it might not affect health or life.

One thing is suggested by this statement, that may be of practical utility, whether if the crop were removed from the ground on the first appearance of the disease, a large part of it might not be saved. This could only take place when the tubers were somewhat advanced towards maturity, and is more likely to be possible with those planted early, than the late. But the first, all accounts seem to agree, are less exposed to the attack of this disease than the others—it does not appear invariably to be so, but generally. The mowing of the stems at the first moment of their turning black, which has been recommended, and said, in some reports, to have been practised with success, would, we should suppose, have the same effect as removing from the ground; all support and all connection with the atmosphere being cut away, the vegetable would necessarily cease to grow, and the progress of disease be at the same time arrested. From the examinations made in France, it seems that the slow or rapid progress of the disease depends very much on the thinness or thickness of the skin, or in other words, as the disease is conveyed by the stem to the tuber, its course will be more or less rapid, in proportion to the strength of the material through which it has to make its way. This may be a reason why some varieties are more liable to the attack and ravages of the rot than others, which appears uniformly to be the case in Europe and in this country. Here the Mercers are said to have been more seriously affected than any other. On the farm of the writer, a variety brought from the State of Maine, and which had only been planted one year in this climate, were equally injured with the Mercers. These are, however, some of those facts that are often found to contradict every general statement, and which we can only surmount, by taking the tendency of the whole evidence.

After as full an examination as we have been able to make, it appears to the writer that the source of this rot may be considered as depending on the condition of the seed and the state of the atmosphere, the one possessing a delicacy and liability to disease, and the other by its ungenial nature, developing them. If we could be entirely satisfied that the disease in the tubers arose solely from the diseased condition of the stem, and that this was owing to atmospheric changes alone, then the cause might be considered as determined, and the whole matter would be nothing more than a question as to when these influences would cease. But there are many instances recorded, in which the tubers were diseased, while the stem and leaves remained fresh and green; and in such cases we are compelled to regard the tuber, as from some cause, being in an unhealthy or delicate state. But notwithstanding the strength of the argument in favour of these atmospheric changes being the source of the disease, and they certainly seem the most plausible way of accounting for it, yet we cannot bring ourselves to assent to it in its full force, but think that they rather tended to develope disease in a vegetable already made delicate and predisposed to morbid action. In Sweden, where the rot existed, instead of these ungenial vicissitudes of temperature, the summer was remarkably dry; and in parts of South America, near the original home of the potatoe, a disease that on examination seems identically the same with that prevailing here, is not at all uncommon. The fungi, insects, &c., observed in the tubers, we regard not as the original source of disease, but as some of those means nature uses to bring about those changes and transformations that are incessantly going on in matter.

A. L. Elwyn.

Philadelphia, Oct. 5th, 1847.

Wheat, oats, rye, Indian corn, potatoes, hay and tobacco, are raised in every State and territory in the Union.

Memoranda on Pears.

BY THE LATE SAMUEL G. PERKINS, BOSTON.

I SEE by your horticultural journal, that you invite discussion on the comparative merits of different kinds of fruit, particularly pears, as the best mode of settling or establishing a useful and correct nomenclature.

The question has frequently been asked me by gentlemen who are beginning to cultivate fruits, "Which is the best pear?" and as there is no such thing as answering this question *directly*, I have answered that I could not tell, as it depended on so many circumstances of which I could not be supposed to have any knowledge.

In the first place, there are Summer, Autumn, and Winter pears, and each season calls for fruit of totally different properties. Then there are as many different tastes almost, as there are men; some like a sweet, luscious, and aromatic fruit, as the Seckel; others like better the spirited, delicate and delicious flavor of the St. Ghislain. Then you have many that prefer the Gansel's—or Brocas—Bergamot, and other pears of that rich delicious flavor, without being too sweet or too spirited. The White Doyenné [or St. Michael] has always been a decided favourite with many when in perfection, and the Louise bonne de Jersey is esteemed inferior to none of the autumn fruits.

But the pear most esteemed in our market is, I believe—when you speak of summer and autum fruits—the pear commonly known as the Bartlett. This pear, a wilding of 1770, in Berkshire, Great Britain, was sent or brought from England to this country by Mr. James Carter, in 1796 or 1797, for his partner, Mr. T. Brewer, who planted it in his grounds at Roxbury, under the name of the Williams' Bon Chretien, or properly, Good Christian, by which name it was then and is now known in England, where it is rated as second quality at Chiswick, as appears by the catalogue of their gardener, Mr. Thompson. Here it got the name of *Bartlett* from the present owner of the Brewer estate, who, not knowing its proper name, allowed it to be called by his own. In France it is known as the Williams pear (*Poire Guillaume*) where I think it is rated still lower than in England. Now many cultivators and fruit loving gentlemen esteem this pear above all others, and as it sells very high in the market, those who raise fruit to sell may well esteem it highly. But some gentlemen who esteem fruit in proportion as it suits their palate, are prone to consider it of inferior quality; although it is very large, and very handsome, and very juicy. But they say it tastes like rotten fruit. Suppose it to be true, that it has slightly the taste of an incipent state of decay, is it to be condemned entirely on that account? The Medlar, which is one of the apple and pear tribe, was formerly raised in England in considerable quantities, but was never eaten until rotted under ground. Is it not then assuming too much to put a fruit down merely because it has a rotten flavor? Who shall decide upon this question, where tastes vary as much in regard to the flavor of the fruit as it does as to the human countenance?

The best pear must depend on the use to which you mean to apply it; if for your own eating, that which suits your own palate most exactly, is the best; if for profit, that which will bring the most money in the market, is to be preferred.

In some places, fruit that is in an incipient state of decay is to be preferred to that which is sound, as may be seen by the following fact:

In the autumn of 1843, I was at Honfleur in France, in the neighbourhood of which place, I saw several women mounted on donkeys, going, as they told me, to market with fruit. On being asked, what kind? Pears, was the answer. What kind of pears? The Messire Jean, was the reply. As this pear was a great favourite with me, when I was able to bite through its hard sides,—for it is the extreme and the perfection of the breaking pears, as the Brown Beurré is the extreme and the perfection of the soft-flesh or buttery pears. I gave the woman a small piece of money, and asked the amount in pears. With this request she complied, by giving me a number of these fruit, which I found were all rotten. On asking her in an angry tone, why she gave me a parcel of worthless, rotten fruit, she laughed in my face, and said, "You joke, I believe," and told me I must be a green one, indeed, not to know that this pear was always rotted before it was eaten. "The pears," said she, "are in perfection, and if you are so ignorant as not to know what is good, it is no fault of mine, so good morning to you," and off she drove, leaving me to swallow the imposition as I considered it, or the joke as she did, or the pears themselves, as I thought best.

But we have a great variety, out of which a selection may be made, to gratify every taste, some of which varieties we will now enumerate.

Those pears that are considered as summer pears, are Madeline, Harvard, Jargonelle, Green Chisel, Muscat Robert, Blanquet à longue queue, Franc Real d'été, several of the Bergamots, such as the Red

and the Summer; also the Catharines, or Rousselets, or what are commonly called the Summer Caten or Catern, and the Rousseline. Many of these are esteemed and valuable fruits, when raised for the use of the cultivator and his family. If I were called upon to select six of the finest *summer* pears for a private garden in the country, I should name the Madeline, the Harvard, the Jargonelle, Summer Franc Real, and Red Bergamot.

Among the *autumn* pears, there are, besides those above mentioned, the Dix, a wilding of Boston, inferior to none other, if all its valuable properties be considered. In appearance, form, flesh and size, together with its fine texture and delicate flavor, it resembles the St. Germain, and is, as an *autumn* pear, what the St. Germain, when in perfection, is as a winter pear, the most valuable species with which we are acquainted.

The Brown Beurré is another pear, perfecting in October, of superior merit, but it does not last long enough to give it the value of the Dix.

The Beurré Diel [on quince stocks] is another pear of distinguished merit, if it be properly treated, and kept till it be entirely ripe, and will be more and more esteemed as it is more known.

The Marie Louise and Josephine, are both excellent, as are the Verte Longue, the Capiaumont, the Sylvanche Vert, the Urbanist and Duchesse d'Angoulême.

But the autumn pear, under the name of Van Mons' Leon le Clerc, which has lately been brought into notice, has a great reputation in England, whence it was imported a few years since. I have had this fruit in bearing two or three years, and have found it very good, but not equal to the account given of it by Mr. Loudon in his Horticultural Journal. I prefer the Dix pear to it, although the Dix is not so large or so handsome; but it continues in eating longer, and when well ripened, has, to my taste, a better or more agreeable flavor.

Besides the above, there are several other kinds of autumn pears that deserve attention, such as the Beurré Portugal, the Figue d'Amiens, the Beurré Bronzé, the Vicar of Winkfield, Wilkinson, and others of equal value.

And among autumn pears, were I to select, I should name the Dix, the St. Ghislain, Gansel's Bergamot, Beurré Diel, Seckel, Marie Louise, White Doyenné (or St. Michael,) Isambert, Louise bonne de Jersey, Duchesse d'Angoulême, Van Mons' Leon le Clerc, and Urbaniste.

As regards the *winter* pears, the Napoleon and Passe Colmar may be considered as belonging to this class, although they sometimes ripen in November, but may be kept till late in December with proper care. These are both excellent fruits.

Among the new or Belgian pears, that ripen later in winter, those mostly esteemed are the Winter Nelis, the Glout Morceau, Beurré d'Aremberg, and Easter Beurré.

Although the St. Germain, the Virgouleuse, the Winter Colmar, and Chaumontel, are no longer cultivated in the open country near the sea-board, yet they still may be, and are raised in towns, as in Boston, in perfection, and may be in other cities, where they find that protection which the open country does not afford them in New England. Of these, the most valuable is the St. Germain, which fruit possesses more of the useful and valuable qualities which we require, than any other of the winter sorts; as it begins to ripen in January, and continues, if properly taken care of, into March and April, while it possesses the excellent texture of the buttery sorts, and is among the finest flavored of the pear tribe.

But as I have said before, this decides nothing; for my taste may, and would perhaps, be condemned by well informed gardeners. In fact, on this subject of taste in the flavor of fruits, I have long since become convinced, that no one can judge for all others; as I once had a practical evidence of its extraordinary deviation from what I had thought an established rule.

Being in Boston market in the autumn, I was, with several other persons, looking over some baskets of peaches and pears at one of the fruit and vegetable stalls. Presently a sailor entered, and the fruiter offered him a choice of his fine fruit, by calling his attention to his fine water melons and musk melons, and apples and pears, peaches and plums, of which he had an abundant supply. But Jack turned up his nose at all these, and fixing his eye upon a green cucumber, he exclaimed, "None of these for me, a cucumber for my money!" and applying the action to the word, he seized upon one of them, and clapping the bitter end into his mouth, he ate away upon it till the tears ran out of his eyes, and he was almost suffocated by the hasty and greedy manner that he swallowed it. The bystanders looked at him with astonishment, expecting to see him choke; at length, however, he cleared his throat sufficiently to give utterance to his words, when looking at a man who stood before him, watching his delighted and distorted countenance, he exclaimed, "If you

will believe me, sir, it is the first I have visited this year!"*—*Downing's Horticulturist.*

Lime.

Read before the Farmers' Club, and communicated to the Farmer and Mechanic for publication.

Rondout, Aug. 10th, 1847.

HENRY MEIGS, Esq.,
Secretary of the Farmers' Club.

DEAR SIR,—Seeing by the accounts of the late excursion of the American Institute over part of Long Island, that much attention is just now paid to that important portion of the State; and supposing that in the meetings and conversations of so many competent men, brought together on the occasions, many suggestions have been made for improving the natural soil of the Island: permit me to trouble you with the following inquiries, to wit:

1st. Has the use of lime been recommended?

2nd. If so, *in what state* should it be applied?

And this brings me to a question I have often thought of putting before the Farmers' Club, if it has not already been a subject of discussion among its members, namely:

"Would not *coarsely pulverized raw carbonate of lime*, mixed up with a soil deprived of the lime principle, be a more permanent way of improving such soil, than the same stone used in the ordinary way, *after burning and slacking with water*, as it is most generally done now?"

This is a very old question. If we open the books, we find many valuable papers written on the subject, which leads to the belief, that in many cases, raw limestone ought to be preferred; and it is remarkable that most all the accounts given, of direct and judiciously conducted experiments,—some of them of many years continuance, both in England and this country—agree in the conclusion that carbonaceous matters, thus applied in a *raw state*, have proved very beneficial upon barren silicious soils, which afterwards, by judicious management, were rendered capable of bearing crops of cereals, with advantage. But it is also remarkable that most of the same accounts came to the same following conclusion, that, "The expense of reducing limestone to powder, would probably prohibit its extensive use in that state." Now, this objection might be well founded "Long time ago," but now, machinists have made such astonishing progress with their ingenious inventions, that it would indeed be doing injustice to them, to suppose that they cannot find means of crushing raw limestone into a coarse powder,—for the same costs incurred now by the operations of kiln burning and water slacking, I, for one, say that it *can be done:* so that, assuming this to be a fact, for the sake of the argument, the simple question remaining is, "Would it be more judicious to apply raw limestone pulverized, than the same stone burnt and slacked on the poor soils of Long Island?"

If it is true that the *burnt lime*,—that is to say, limestone deprived of its carbonic acid,—does not benefit the soil, until it has reabsorbed from the atmosphere the greater part of the carbonic acid which it has lost by burning, and has thus returned to the state of a *carbonate* again, then indeed, it would appear that these operations of burning and slacking, were mere contrivances to reduce the stone into powder; and that the *raw stone* reduced to powder, ought to claim the preference, as affording at once a larger proportion of carbon.

It may be objected that the raw stone would undergo a slower disintegration and decomposition, and not act so immediately as a manure: but if long duration, and even permanency in the improvement of the soil, are the objects in view, a slow disintegration should not be an objection. There would always be a sufficient proportion of the crushed stone in minute particles, for immediate action.

But, sir, I do not wish to trouble you any longer with a discussion which can be carried on, and perhaps has already been so, by much more able men. My principal object in addressing you, is to draw attention, and to make it known, in proper quarters, that, in case the farmers and land owners of Long Island should wish to give a fair and extensive trial to the raw pulverized limestone, I think it could be furnished to almost any quantity, and of various qualities—some of it is almost pure carbonate of lime,—from this place and vicinity, and at prices which

* We should rather incline to call this an instance of the sailor's coarse *appetite*, than his *taste*. Indeed, no word is so much misapplied as the latter. We consider a *taste*, by which we mean a *nice sense* of *discrimination*, as the result of good natural organization, joined to a familiar acquaintance with a great variety of the different objects on which the taste is to be exercised. Thus no man could be said to have a fine taste, in pictures, who had never seen anything better than the daubs of a village sign painter. To go lower, we believe M. Soyer would not give a person credit for any taste in cookery, who had never eaten anything except "plain boiled and roasted;" and we should certainly deny any one the right to claim a taste in fruits who does not know by heart, at least all the finest standard varieties.—ED.

could not be objectionable, considering the object to be obtained.

I am very respectfully, sir,
Your obedient servant,
G. S. Guilliard.

From the London Gardeners' Chronicle.

House-feeding Sheep.

I have two houses for feeding sheep, the one containing 140 stalls, and the other 150. My system has been now several years in operation, and answers my fullest expectations.

The great principle upon which I relied when I commenced it, was that safe and certain one, that in proportion as an animal is kept warm, clean, well fed,—in other words, comfortable in every respect,—it will improve in flesh and in fat, and will be likely to repay the attention of the feeder. This principle had been safely applied to other animals—to the ox, the swine, the horse, the dog—to many of the wild animals—and, what furnished a still stronger illustration, to birds—for the careful housewife invariably coops her poultry. The ordinary process of reasoning assured me that the same causes which were operative upon other animals, would be as certainly operative upon the sheep, and the result has fully justified the opinion.

My sheep are confined in stalls, the dimensions of which I need not give, because it is obvious that they must be regulated by the ordinary size of the breed to which they are to be appropriated. It is enough to say that they should not be so large as to enable the animal to turn round and dirty the trough. Each sheep is confined by a leathern collar, attached to a slight chain, of the size of a small dog chain, furnished with a couple of swivels, sufficiently long to secure comfort to the animal, but not long enough to hang back beyond the division of his stall, and to interfere with his neighbour. At the head of each sheep is a trough, for the purpose of holding turnips, at one end of which is a division for chaff, bruised corn, linseed-cake, or other food of the kind. Above the trough is a small rack for vetches, clover, or other long food.

In one of my houses a small cast-iron water trough is appropriated to every two sheep, the entire number of troughs being laid upon a level, and supplied from a tank furnished with a ball-cock.

Under each row of animals is a receptacle for the manure, formed of brick laid in cement. It is about two feet deep, and as much in breadth, and is covered by an oaken grating. A receptacle of these dimensions requires emptying about once in ten weeks. The sheep stand back to back, with an interval between the rows sufficient to allow the barrows, for feeding and for carrying away the manure, to pass freely through the house, and this passage is laid so far below the level of the gratings as to admit of any dirt dropped in the path being swept into the manure tanks on either side.

The whole of the openings in the stalls are secured by shutters, which in cold weather are closed entirely at night, and which are opened, more or less, according to the weather, during the day.

Gypsum is occasionally scattered along the paths, and swept into the tanks; and in the absence of gypsum, peat or other vegetable ash, which we find answer a good purpose.

So essential do I consider warmth, that if I were in a coal country I should be inclined to regulate the heat of my ox and sheep houses as we do that of our conservatories—by artificial heat; and I think it probable that the feeder would be repaid by glazing the openings left for light.

My sheep are generally very healthy, and thrive fast; but in this respect they differ very much. In some very rare instances individuals have gained a pound a day live weight. In many instances the average gain, upon a large number, has exceeded three pounds a head per week; but the more general average is about two and a half pounds. It is obvious that the breed and quality of the sheep, the age, the sex, the season, the weather, the food, are all involved in this question. And so in reference to the time occupied in making out the sheep for the butcher. Upon this point it is enough for me to say that the advantage of stall feeding over the open fold is immense; and it will be, of course, greater or less in proportion as the farm is one in which the soil and the exposure are more or less favourable to the well-doing of stock, and to the feeding off the turnip crop.

The manure is of first-rate quality, and especially valuable for the drill; not inferior, as I think, to the best guano, made as it is under cover, and containing as it does all the chemical properties of the urine, in admixture with the solid manure. My usual custom has hitherto been to use it with the addition of some bone, either in the raw state, or recently in that of superphosphate. I may add that under this system the growth of wool is very rapid, fully corresponding to that of the carcass.

I have thus told you everything which occurs to me as useful to be known by those

who may wish to carry into effect my method of feeding.

RICHARD SIMEON.

Swainston, Isle of Wight, Feb. 22nd.

W. C. SPOONER, Esq.

There are now before the public the details of three methods of shed-feeding sheep—the system of box or pen-feeding adopted by Mr. Huxtable, the method of stall-feeding practiced by Sir Richard Simeon, Bart., and the plan of having movable houses in the turnip field recommended by other gentlemen. Each system seems to have peculiar advantages as well as disadvantages, but all agree in the economical manufacture and expenditure of the manure.

W. C. SPOONER.

Flour and Wheat.

WE take the following very interesting table from a late number of the *Pa. Enquirer*. It would appear that we sent away last year more flour than we had ever done before: nearly twice as much as in 1845, and more than four times as much wheat as in 1845. One fact in the table strikes us as remarkable: it seems that in 1793, we exported more wheat than in any subsequent year except 1840 and '46—and considerably more than an average amount of flour for the last 57 years. The increase of population keeps up with the increased production that is the combined result of improved agriculture and extended fields.—ED.

THE following valuable table, showing the exports of flour and wheat from the United States, since 1790, was originally prepared for the *Commercial List* of this city, and appeared in that Journal several years in succession prior to 1842–43; since which time the table has been completed by another hand.

Export of wheat and flour from the United States:

	Bushels of Wheat exported.	Barrels of Flour exported.
1790	1,124,458	724,623
1791	1,018,339	619,681
1792	853,790	824,464
1793	1,450,575	1,074,639
1794	698,797	846,010
1795	141,273	687,369
1796	31,226	725,194
1797	15,655	515,633
1798	15,021	567,558
1799	10,056	519,265
1800	26,853	653,052
1801	239,929	1,102,444
1802	280,281	1,156,248
1803	686,415	1,311,853
1804	127,024	810,008
1805	18,041	777,513
1806	86,784	782,724
1807	776,814	1,249,819
1808	87,330	263,813
1809	393,889	846,247
1810	325,924	798,431
1811	216,833	1,445,012
1812	53,832	1,443,492
1813	288,535	1,260,942
1814		193,274
1815	17,634	862,739
1816	62,321	729,053
1817	96,407	1,479,198
1818	196,808	1,157,697
1819	82,065	750,660
1820	22,137	1,177,032
1821	25,821	1,056,119
1822	4,418	827,865
1823	4,272	756,702
1824	20,373	996,792
1825	17,990	813,906
1826	45,166	857,820
1827	22,182	868,490
1828	8,906	860,809
1829	4,007	837,385
1830	45,289	1,227,434
1831	408,910	1,806,529
1832	88,304	864,919
1833	32,421	955,768
1834	36,948	835,352
1835	47,762	779,396
1836	2,062	505,400
1837	17,303	318,719
1838	6,291	448,161
1839	96,325	923,151
1840	1,720,860	1,897,501
1841	868,585	1,515,817
1842	817,958	1,283,602
1843*	311,685	841,474
1844	558,917	1,438,574
1845	389,716	1,195,230
1846	1,613,795	2,289,476
	16,661,312	54,358,088

By the above table it appears that the total exports of wheat from the United States during the 57 years from 1790 to 1846 inclusive, were 16,661,312 bushels, and of flour 54,358,088 barrels.

The Royal Agricultural Society of England,

HELD its Annual Exhibition the present season at Northampton, from the 20th to the 23rd of July, inclusive. The show of animals was considered equal to any former one. The Short-horn, Hereford, and Devon cattle in particular, are spoken of as being uncommonly fine. The prizes for the two best Short-horn bulls, were awarded to John Parkinson, of Ley-fields, near Newark, and William Smith, of West-Rasen; for the best

* Nine months, the termination of the fiscal year being changed from September to June.

Short-horn cow, to Richard Booth, of Warlaby, near Northallerton. The prizes for the two best Hereford bulls, were awarded to Samuel Aston, of Lynch Court, Leominster, and George Pitt, of Wellington, near Hereford; for the best Hereford cow, to Wm. Abbott, of Glinton, near Peterborough. The prizes for the two best Devon bulls, were awarded to Thomas Bond, of Bishops' Lydiard, and the Duke of Manchester, Kimbolton castle. In Leicester sheep, the two prizes for rams in class 1, were awarded to T. E. Pawlett, of Beeston; the first prize in class 2, to Robert Smith, of Burley-on-the-Hill, near Oakham; for ewes to Wm. Sanday, of Holme Pierrepont, and Robert Smith. In South Downs, Jonas Webb, of Babraham; John Harris, of Hinton; and the Duke of Manchester, obtained the prizes. In Cotswolds, Charles Large, of Broadwell, near Lecdale, was the principal prize taker. All these prizes were from 20 to 50 sovereigns.

This Society has upwards of 7,000 members. During the first day of the exhibition, 1,336 visitors entered the yards; the second day, 2,738; and the third day, 22,090. At the dinner of the Society, the Earl of Chichester proposed the health of our Minister, Mr. Bancroft, to which the latter replied in an eloquent speech, which was received with great applause. In allusion to the remark of Earl C. that Britain and the United States might "long remain in terms of brotherhood," Mr. Bancroft said:

"I respond fully, and in the name of every American, in the wish that has been uttered, that peace may be continued forever, (cheers) nay, rather let us hope that the relations between our countries, the international intelligence betwixt us, may lead to such intimate relations that the very thought of the disturbance of peace may be dismissed from our minds, and that it may seem a vain, unnecessary, and a useless prayer to pray that peace may be perpetual (cheers). This, gentlemen, is uttered from my heart, and every one of my countrymen will, I am sure, respond to it. I beg to renew my expressions of gratitude for your kindness to me on this occasion, and to offer my fervent prayers for the prosperity of the farmers of England." (loud cheers.)—*Cultivator.*

Saxony Sheep.

"In the year 1765, Augustus Frederick, Elector of Saxony, obtained permission from the Spanish Court to import two hundred Merinos, selected from the choicest flocks of Spain. They were chosen principally from the Escurial flock, and on their arrival in Saxony, were placed on a private estate belonging to the Elector, under the care of Spanish shepherds. So much importance was attached to the experiment, as it was then considered, that a commission was appointed to superintend the affairs of the establishment; and it was made its duty to diffuse information in relation to the management of the new breed; to dispose of the surplus rams at prices which would place them within the reach of all holders of sheep; and finally, by explaining the superior value of the Merinos, to induce the Saxon farmers to cross them with their native breeds. Popular prejudice, however, was strong against them, and this was heightened by the ravages of the scab, which had been introduced with them from Spain, and which proved very destructive before it was finally eradicated. But when it became apparent that the Merino, so far from degenerating, had improved" in the quality of its wool, in Saxony, "the wise and patriotic efforts of the Elector began to reap their merited success, and a revolution took place in popular sentiment. The call for rams became so great that the Government resolved on a new importation, to enable them more effectually to meet it, and to improve still farther the stock already obtained. For this purpose an individual, considered one of the best judges of sheep in Saxony, was dispatched to Spain in 1777, with orders to select three hundred. For some reason, probably because he experienced difficulty in obtaining a greater number presenting all the qualifications he sought, he returned with but one hundred and ten. They were from nearly all the different flocks of Spain, but principally the Escurial—and were considered decidedly superior to the first importation. In addition to the establishment at Stolpen, already founded, others were now commenced at Rennersdorf, Lohmen, &c.; schools were established for the education of shepherds; publications were distributed by the commissioners to throw information on the subject before the people; and the Crown tenants, it is said, were each required to purchase a certain number of the sheep."

"The first importation of Saxony sheep into the United States was made by Mr. Samuel Henshaw, a merchant of Boston, at the instance of Col. James Shepherd, of Northampton. They were but six or seven in number. In 1824, Messrs. G. & T. Searle, of Boston, imported seventy-seven Saxon sheep. They were selected and purchased by a Mr. Kretchman, a correspondent of the above firm, residing in Leipsic, and shipped at Bremen on board the American schooner Velocity. I was engaged to take charge of

the sheep on the passage, and I also shipped six on my own account. I am sorry to say that as many as one-third of the sheep purchased by Kretchman—who shared profit and loss in the undertaking,—were not pure blooded sheep. The cargo were sold at auction at Brooklyn, as 'pure-blooded electoral Saxons,' and thus unfortunately in the very outset the pure and impure became irrevocably mixed. But I feel the greatest certainty that the Messrs. Searle intended to import none but the pure stock—the fault lay with Kretchman. In the fall of 1824, I entered into an arrangement with the Messrs. Searle to return to Saxony, and purchase in connection with Kretchman, from 160 to 200 Electoral sheep. I was detained at sea seven weeks, which gave rise to the belief that I was shipwrecked and lost. When I finally arrived, the sheep had been already bought by Kretchman. On being informed of what the purchase consisted, I protested against taking them to America, and insisted on a better selection, but to no purpose. A quarrel ensued between us, and Kretchman even went so far as to engage another to take charge of the sheep on their passage. My friends interposing, I was finally induced to take charge of them. The number shipped was one hundred and sixty-seven, fifteen of which perished on the passage. They were sold at Brighton, some of them going as high as from $400 to $450. A portion of this importation consisted of grade sheep, which sold as high as the pure-bloods, for the American purchasers could not know the difference. It may be readily imagined what an inducement the Brighton sale held out to speculation, both in this country and Saxony. The German newspapers teemed with advertisements of sheep for sale, headed 'Good for the American Market;' and these sheep, in many instances, were actually bought up for the American market at $5, $8, or $10 a head, when the pure-bloods could not be purchased at from less than $30 to $40. In 1836, Messrs. Searle imported three cargoes, amounting in the aggregate to 513 sheep. They were of about the same character with their prior importations, in the main good, but mixed with some grade sheep. On the same year a cargo of 221 arrived, on German account, Emil Bach, of Leipsic, supercargo. A few were good sheep and of pure blood; but taken as a lot they were miserable. The owners sunk about $3,000. Next came a cargo of 210 on German account; Wasmuss and Multer, owners. The whole cost of these was about $1,125, in Germany. With the exception of a small number, procured to make a flourish on in their advertisements of sale, they were sheep having no pretensions to purity of blood. In 1827, the same individuals brought out another cargo. These were selected exclusively from grade flocks of low character. On the same year the Messrs. Searle made their last importation, consisting of 182 sheep. Of these I know little. My friends in Germany wrote me that they were like their other importations, a mixture of pure and impure blooded sheep. It is due, however, to the Messrs. Searle to say that, as a whole, their importations were much better than any other made into Boston.

"I will now turn your attention to the importations made into other ports. In 1825, thirteen Saxons arrived in Portsmouth. They were miserable creatures. In 1826, one hundred and ninety-one sheep arrived in New York, per brig William, on German account. A portion of these were well descended and valuable animals, the rest were grade sheep. In June the same year, the brig Louisa brought out one hundred and seventy-three on German account. Not more than one-third of them had the least pretensions to purity of blood. Next we find one hundred and fifty-eight shipped at Bremen, on German account. Some were diseased before they left Bremen, and I am happy to state that twenty-two died before their arrival in New York. All I intend to say of them is, that they were a most curious and motley mess of wretched animals. The next cargo imported arrived in the brig Maria Elizabeth, under my own care. They were one hundred and sixty-five in number, belonging to myself and F. Gebhard, of New York. These sheep cost me $65 a head, when landed in New York. They sold at an average of $50 a head, thus sinking about $2,400! I need not say that they were exclusively of pure blood. A cargo of eighty-one arrived soon after, but I know nothing of their quality. The next importation consisted of one hundred eighty-four, on German account, per brig Warren. With a few exceptions they were pure-blooded and good sheep. We next have an importation of two hundred by the Bremen ship Louisa. They were commonly called the 'stop sale sheep.' They were of the most miserable character, some of them being hardly half-grade sheep. The ship Phebe Ann brought one hundred and twenty sheep, of which I know little; and sixty were landed at Philadelphia, with the character of which I am unacquainted. Having determined to settle in America, I returned to Saxony, and spent the winter of 1826–7, in visiting and examining many flocks. I selected one hundred and fifteen from the celebrated flock of Ma-

chera, embarked on board the ship Albion, and landed in New York June 27, 1827. In 1828, I received eighty more from the same flock, selected by a friend of mine, an excellent judge of sheep. I first drove them to Shaftsbury, adjoining the town of Hosic, where I now reside. On their arrival they stood me in $70 a head, and the lambs half that sum."—*Farmers' Library.*

Silas Wright's Address,

At the Exhibition of the New York State Agricultural Society, 9th mo. 16, 1847.

Mr. President, and Gentlemen of the State Agricultural Society:

Had it been my purpose to entertain you with a eulogium upon the great interest confided to your care, the Agriculture of the State, I should find myself forestalled by the exhibition which surrounds us, and which has pronounced that eulogy to the eye, much more forcibly, impressively, eloquently, than I could command language to pronounce it to the ear of this assembly.

Had I mistakenly proposed to address to you a discourse upon agricultural production, this exhibition would have driven me from my purpose, by the conviction that I am a backward and scarcely initiated scholar, standing in the presence of masters, with the least instructed and experienced of whom, it would be my duty to change places.

The agriculture of our state, far as it yet is from maturity and perfection, has already become an art, a science, a profession, in which he who would instruct must be first himself instructed far beyond the advancement of him who now addresses you.

The pervading character of this great and vital interest, however; its intimate connection with the wants, comforts, and interests of every man in every employment and calling in life; and its controlling relations to the commerce, manufactures, substantial independence, and general health and prosperity of our whole people, present abundant subjects for contemplation upon occasions like this, without attempting to explore the depths, or to define the principles of a science so profound, and, to the uninitiated, so difficult as is that of agriculture.

Agricultural production is the sub-stratum of the whole superstructure; the great element which spreads the sail and impels the car of commerce, and moves the hands and turns the machinery of manufacture. The earth is the common mother of all, in whatever employment engaged, and the fruits gathered from its bosom, are alike the indispensable nutriment and support of all. The productions of its surface and the treasures of its mines, are the material upon which the labor of the agriculturist, the merchant, and the manufacturer, are alike bestowed, and are the prize for which all alike toil.

The active stimulus which urges all forward, excites industry, awakens ingenuity, and brings out invention, is the prospect or the hope of a market for the productions of their labor. The farmer produces to sell; the merchant purchases to sell; and the manufacturer fabricates to sell. Self-consumption of their respective goods, although an indispensable necessity of life, is a mere incident in the mind impelled to acquisition. To gain that which is not produced or acquired, by the sale of that which is possessed, is the great struggle of laboring man.

Agricultural production is the first in order, the strongest in necessity, and the highest in usefulness, in this whole system of acquisition. The other branches stand upon it, are sustained by it, and without it could not exist. Still it has been almost uniformly, as the whole history of our state and country will show, the most neglected. Apprenticeship, education, a specific course of systematic instruction, has been, time out of mind, considered an indispensable pre-requisite to a creditable or successful engagement in commercial or mechanical pursuits; while to know how to wield the axe, to hold the plow, and to swing the scythe, has been deemed sufficient to entitle the possessor of that knowledge to the first place, and the highest wages in agricultural employment.

A simple principle of production and of trade, always practically applied to manufactures and commerce, that the best and cheapest article will command the market, and prove the most profitable to the producer and the seller, because most beneficial to the buyer and consumer, is but beginning to receive its application to agriculture. The merchant, who, from a more extensive acquaintance with his occupation, a more attentive observation of the markets, better adapted means, and a more careful application of sound judgment, untiring energy and prudent industry, can buy the best and sell the cheapest, has always been seen to be the earliest and surest to accomplish the great object of his class, an independence for himself. So the mechanic, who, from a more thorough instruction in the principles and handicraft of his trade, or a more intense application of mind and judgment with labor, can improve the articles he fabricates, or the machinery and modes of their manufacture, and can thus produce the best and sell the cheapest, has always been seen to reach the same advantage over his competitors, with equal readiness and certainty; and that these results should follow

these means and efforts, has been considered natural and unavoidable.

Still the agriculturist has been content to follow in the beaten track, to pursue the course his fathers have ever pursued, and to depend on the earth, the seasons, good fortune, and providence, for a crop, indulging the hope that high prices may compensate for diminished quantity or inferior quality. It has scarcely occurred to him that the study of the principles of his profession had anything to do with his success as a farmer, or that what he had demanded from his soils should be considered in connection with what he is to do for them, and what he is about to ask them to perform. He has almost overlooked the vital fact, that his lands, like his patient teams, require to be fed to enable them to perform well, and especially has he neglected to consider that there is a like connection between the quantity and quality of the food they are to receive, and the service to be required from them. Ready, almost always, to the extent of their ability, to make advances for the purchase of more lands, how few of our farmers, in the comparison, are willing to make the necessary outlays for the profitable improvement of the land they have?

These and kindred subjects, are beginning to occupy the minds of our farmers, and the debt they owe to this society for its efforts to awaken their attention to these important facts, and to supply useful and practical information in regard to them, is gradually receiving a just appreciation, as the assemblage which surrounds us, and the exhibitions upon this ground, most gratifyingly prove.

Many of our agriculturists are now vigorously commencing the study of their soils, the adaptation of their manures to the soil and the crop, the natures of the plants they cultivate, the food they require, and the best methods of administering that food to produce health and vigor and fruit; and they are becoming convinced that to understand how to plow and sow and reap, is not the whole education of a farmer; but that it is quite as important to know what land is prepared for the plow, and what seed it will bring to a harvest worthy of the labors of the sickle. Experience is steadily proving that by due attention to these considerations, a better article, doubled in quantity, may be produced from the same acre of ground, with a small proportionate increase of labor and expense, and that the farmer who pursues this improved system of agriculture, can, like the merchant and mechanic referred to, enter the market with a better production, at a cheaper price, than his less enterprising competitor.

This change in the agriculture of our state and country, opens to the mind reflections of the most cheering character. If carried out to its legitimate results, it promises a competition among our farmers, not to obtain the highest prices for inferior productions, but to produce the most, the best, and the cheapest of the necessaries of human life. It promises agricultural prosperity, with cheap and good bread, furnished in abundance to all who will eat within the rule prescribed to fallen man, in the sacred volume of Divine law.

Steady resolution and persevering energy, are requisite to carry forward these improvements to that degree of perfection dictated alike by interest and by duty; and the stimulus of a steady and remunerating market will rouse that resolution and nerve that energy. Without this encouragement in prospect, few will persevere in making improvements which require close and constant mental application, as well as severe physical labor. Agriculture will never be healthfully or profitably prosecuted by him whose controlling object is his own consumption. The hope of gain is the motive power to human industry, and is as necessary to the farmer as to the merchant or manufacturer. All who labor are equally stimulated by the prospect of a market which is to remunerate them for their toil, and without this hope neither mental activity, nor physical energy, will characterize their exertions. True it is that the farmers of our country, as a class, calculate less closely the profits of their labor and capital, than men engaged in most other pursuits, and are content with lower rates of gain. The most of them own their farms, their stocks and farming implements, unencumbered by debt. Their business gives but an annual return. They live frugally, labor patiently and faithfully, and at the close of the year, its expenses are paid from its proceeds, the balance remaining being accounted the profits of the year. Although a moderate sum, it produces contentment, without a computation of the rate per cent. upon the capital invested, or the wages it will pay to the proprietor and the members of the family. The result is an advance in the great object of human labor, and, if not rapid, it is safe and certain. It is a surplus beyond the expenses of living, to be added to the estate, and may be repeated in each revolving year.

If, however, this surplus is left upon the hands of the farmer, in his own products, for which there is no market, his energies

are paralyzed, his spirits sink, and he scarcely feels that the year has added to his gains. He sees little encouragement in toiling on, to cultivate beyond his wants, productions which will not sell; and the chances are, that his farm is neglected, his husbandry becomes bad, and his gains in fact cease.

To continue a progressive state of improvement in agriculture, then, and to give energy and prosperity to this great and vital branch of human industry, a healthful and stable market becomes indispensable, and no object should more carefully occupy the attention of the farmers of the United States.

Deeply impressed with the conviction of this truth, benevolent minds have cherished the idea that a domestic market, to be influenced only by our own national policy, would be so far preferable, in stability and certainty, to the open market of the commercial world, as to have persuaded themselves that a sufficient market for our agricultural products is thus attainable. It is not designed to discuss the soundness of this theory, where it can be reduced to practice; but only to inquire whether the state of this country, the condition of its society, and the tendency and inclination of its population, as to their industrial pursuits, are such, at the present time, or can be expected to be such for generations yet to come, as to render it possible to consume within the country the surplus of the productions of our agriculture. The theory of an exclusively domestic market for this great domestic interest, is certainly a very beautiful one, as a theory, and can scarcely fail to strike the mind favorably upon a first impression. Still, examination has produced differences of opinion between statesmen of equal intelligence and patriotism, as to its influences upon the happiness and prosperity of a country and its population. Any examination of this question would lead to a discussion properly considered political, if not partisan, and all such discussions it is my settled purpose to avoid, as inappropriate to the place and the occasion.

I simply propose to inquire as to a fact, which must control the application of theories and principles of political economy touching this point, to our country and its agricultural population, without raising any question as to the wisdom of the one, or the soundness of the other. Is the consumption of this country equal to its agricultural production, or can it become so within any calculable period of years? How is the fact? May I not inquire without giving offence, or transcending the limits I have prescribed for myself in the discussion? Can a fair examination, scrupulously confined to this point, take a political bearing, or disturb a political feeling? It is certainly not my design to wound the feelings of any member of the Society, or of any citizen of the country; and I have convinced myself that I may make this inquiry, and express the conclusions of my own mind as to the result, without doing either. If I shall prove to be in error, it will be an error as to the fact inquired after, and not as to the soundness of the principle in political economy dependent upon the fact for its application, because as to the soundness of the principle, I attempt no discussion and offer no opinion. It will be an error as to the applicability of a theory to our country, and not as to the wisdom or policy of the theory itself, because of the soundness, or unsoundness of the theory, when it can be practically applied, I studiously refrain from any expression, as inappropriate here. With the indulgence of the Society, I will inquire as to the fact.

Our country is very wide and very new. It embraces every variety of climate and soil most favourable to agricultural pursuits. It produces already almost every agricultural staple, and the most important are the ordinary productions of extensive sections of the country, and are now sent to the markets in great abundance.

Yet our agriculture is in its infancy almost everywhere, and at its maturity nowhere. It is believed to be entirely safe to assume that there is not one single agricultural county in the whole Union, filled up in an agricultural sense—not one such county which has not yet land to be brought into cultivation, and much more land, the cultivation of which is to be materially improved, before it can be considered as having reached the measure of its capacity for production. If this be true of the best cultivated agricultural county in the Union, how vast is the proportion of those counties which have entire townships, and of the States, which have not merely counties, but entire districts, yet wholly unpeopled, and unreclaimed from the wilderness state?

When to this broad area of the agricultural field of our country, we add our immense territories, organized and unorganized, who can compute the agricultural capacities of the United States, or fix a limit to the period when our surplus agricultural productions will increase with increasing years and population? Compare the census of 1830 and 1840 with the map of the Union, and witness the increase of population in the new States, which are almost exclusively agricultural, and who can doubt the strong and resistless inclination of our people to this pursuit?

Connect with these considerations of extent of country, diversity of soils, varieties of climate, and partial and imperfect cultivation, the present agricultural prospects of this country. Witness the rapid advances of the last dozen years in the character of our cultivation, the quality and quantity of our productions from a given breadth of land, and the improvements in all the implements by which the labour of the farmer is assisted and applied. Mark the vast change in the current of educated mind of the country, in respect to this pursuit; the awakened attention to its high respectability as a profession, to its safety from hazards, to its healthfulness to mind and body, and to its productiveness. Listen to the calls for information, for education, upon agricultural subjects, and to the demands that this education shall constitute a department in the great and all-pervading system of our common school education, a subject at this moment receiving the especial attention, and being pressed forward by the renewed energies of this Society. Behold the numbers of professors, honoured with the highest testimonials of learning conferred in our country, devoting their lives to geological and chemical researches calculated to evolve the laws of nature connected with agricultural production. Go into our colleges and institutions of learning, and count the young men toiling industriously for their diplomas, to qualify themselves to become practical and successful farmers, already convinced that equally with the clerical, the legal, and the medical professions, that of agriculture requires a thorough and systematic education, and its successful practice the exercise of an active mind devoted to diligent study.

Apply these bright and brightening prospects to the almost boundless agricultural field of our country, with its varied and salubrious climate, its fresh and unbroken soils, its cheap lands and fee simple titles, and who can hope, if he would, to turn the inclinations of our people from this fair field of labour and of pleasure? Here the toil which secures a certain independence is sweetened by the constant and constantly varying exhibitions of nature in her most lovely forms, and cheered by the most benignant manifestations of the wonderful power and goodness of nature's God. Cultivated by the resolute hands and enlightened minds of freemen, owners of the soil, properly educated, as farmers, under a wise and just administration of a system of liberal public instruction, should and will be, and aided by the researches of geology and chemistry, who can calculate the extent of the harvests to be gathered from this vast field of wisely directed human industry?

The present surplus of bread-stuffs of this country could not have been presented in a more distinct and interesting aspect than during the present year. A famine in Europe, as wide-spread as it has been devastating and terrible, has made its demands upon American supplies, not simply to the extent of the ability of the suffering to purchase food, but in superadded appeals to American sympathy in favour of the destitute and starving. Every call upon our markets has been fully met, and the heart of Europe has been filled with warm and grateful responses to the benevolence of our country and of our countrymen, and yet the avenues of commerce are filled with the productions of American agriculture. Surely the consumption of this country is not now equal to its agricultural production.

If such is our surplus in the present limited extent and imperfect condition of our agriculture, can we hope that an exclusive domestic market is possible, to furnish a demand for its mature abundance? In this view of this great and growing interest, can we see a limit to the period, when the United States will present, in the commercial markets of the world, large surpluses of all the varieties of bread-stuffs, of beef, pork, butter, cheese, cotton, tobacco, and rice, beyond the consumption of our own country? And who, with the experience of the last few years before him, can doubt that the time is now at hand, when the two great staples of wool and hemp will be added to the list of our exportations?

These considerations, and others of a kindred character, which time will not permit me to detail, seem to me, with unfeigned deference, to prove that the agriculture of the United States, for an indefinite period yet to come, must continue to yield annual supplies of our principal staples, far beyond any possible demand of the domestic market, and must therefore remain, as it now is and has ever been, an exporting interest. As such, it must have a direct concern in the foreign trade and commerce of the country, and in all the regulations of our own and of foreign governments which affect either, equal to its interest in a stable and adequate market.

If this conclusion be sound, then our farmers must surrender the idea of a domestic market to furnish the demand, and measure the value of their productions, and must prepare themselves to meet the competition of the commercial world in the markets of the commercial world, in the sale of the fruits

of their labour. The marts of commerce must be their market, and the demand and supply which meet in those marts must govern their prices. The demand for home consumption, as an element in that market, must directly and deeply interest them, and should be carefully cultivated and encouraged, while all the other elements acting with it, and constituting together the demand of the market, should be studied with equal care, and, so far as may be in their power, and consistent with other and paramount duties, should be cherished with equal care.

TO BE CONTINUED.

Food for Milch Cows.—At a large milk establishment near Newcastle, England, the cows are fed in the following manner: 91 pounds of clover hay,—cut or chopped—168 lbs. brewer's grains, 12 lbs. ground flax seed, 2 lbs. salt, are mixed together, and equally divided as the daily food for twelve cows. The hay, after having been cut, is put into the mash tub and scalded with boiling water. The other articles are then mixed with it. It is stated that a good cow thus fed, will yield an average of fourteen quarts of milk per day, for eight months in succession. The owner of the establishment, Mr. Arundale, stated that he had one cow which had not had a calf for two years and a half, that was giving an average of eight quarts per day. A great point observed is, that the cows never fall off in condition.—*Cultivator.*

Fat Animals and Large Crops result alike from abundance of Proper Food.—The profits of crops, as well as cattle, depend mainly upon the return they make for the food and labour bestowed upon them. The man who grows a hundred bushels of corn, or makes a hundred pounds of meat, with the same means and labour that his neighbour expends to obtain fifty bushels or fifty pounds, has a manifest advantage; and while the latter merely lives, the former, if prudent, must grow rich. He gains the entire value of the extra fifty bushels or fifty pounds. This disparity in the profits of agricultural labour and expenditure is not a visionary speculation—it is a matter of fact, which is seen verified in almost every town. We see one farmer raise 80 bushels of corn on an acre of land, with the same labour, but with more foresight in keeping his land in good tilth, and feeding better his crop, than his neighbour employs upon an acre, and who does not get 40 or even 30 bushels. This difference results from the manner of feeding and tending the crop.—*Vt. Chronicle.*

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

Philadelphia, Tenth Month, 1847.

We have received the second number of *The Iowa Farmers' Advocate*, edited by H. Gates, and published weekly at Burlington, Iowa, in a quarto form of 16 pages, at $1 a year. It is well filled, and cannot fail, from the promise before us, to be highly useful to our Western farmers.

We understand the Chester County Horticultural Society's Annual Exhibition, at West Chester, was a very spirited affair, greatly creditable to its members and the neighbourhood. There is much horticultural taste and skill in the vicinity, as well as substantial means for their improvement and display. Numerous premiums were awarded, both for fruits and flowers.

By an extract from the Ohio Cultivator, on page 82 we learn, as indeed we have learned from various other papers of the State, that the disease of the potatoe has quite extensively appeared in Ohio. We do not hear much of it in the Atlantic States, and we hope the general crop will be a tolerably good one. The potatoes in this vicinity, are very fine, though the crop is not a large one.

The Burlington Gazette says, the Horticultural Exhibition in that city last month was well attended; and that Burlington County was well represented by the produce from the ample gardens and well managed farms of the vicinity.

It is stated in one of the Ohio papers, that peaches were produced at the recent Fair of the Columbus Horticultural Society, measuring more than a foot in circumference, and weighing 14 ounces.

We are advised, that a dairy farmer in Lancashire, England, lately realised £42,12*s.* 6*d.* by the sale of 13½ cwt. of cheese, the product of thirteen cows, in thirty-eight days; full 40 cents a day for each cow.

We have thought the Address of Ex-Governor Wright, was well worth an insertion in the Cabinet. Part of it will be found on page 98. It will be recollected, that he died suddenly at his residence, Canton, N. Y., on the 27th of 8th mo. last. It is said he completed it only the day previously. It was read at the Exhibition by John A. Dix.

Prince's Catalogues—36th Edition.

Wm. R. Prince & Co., proprietors of the Nurseries at Flushing, L. I., have just published their new Catalogues at an expense of above $1000. The Descriptive Fruit Catalogue is the most complete ever published, and the glands, size and colour of the blossoms of the peaches are given in addition to all other information. Terms $1, post paid, with the application. The old edition will be sent *gratis*.

Sept. 15th, 1847. 2t.

KEPHART'S PATENT

Fruit and Vegetable Preserver.

An admirable invention, by which fruits, vegetables, &c., viz. oranges, lemons, apples, pears, peaches, &c.—potatoes, green corn, melons, &c., can be kept as long as desirable with all their natural juices and sweetness. Also, butter, eggs and bacon can be kept throughout the year, fresh and sweet, at an expense not greater than in an ordinary warehouse in the city. A full description will be found in the June number of the Cabinet.

The undersigned having purchased the Patent-right for the United States, except the states of New Jersey, Delaware and Maryland, and the cities of New York and St. Louis, offer for sale Patent-rights for the construction of the PRESERVER, by states, counties or individual rights, upon terms that will induce all interested in the preservation of the above named articles, to purchase rights and construct houses.

FLACK, THOMPSON & BROTHER,
Coates Street wharf, near Fairmount.

All communications will receive prompt attention, if addressed either to PETER KEPHART,
Western Hotel, Baltimore, Md.
Or to FLACK, THOMPSON & BROTHER,
Spring Garden P. O. Philadelphia.

July 15th, 1847.—6t.

FOR SALE,

AT D. O. PROUTY'S

AGRICULTURAL WAREHOUSE,

No. 194½ *Market Street, Philadelphia,*

Corn-Shellers in great variety, price from $1 50 to $50 each; Hovey's Patent Hay, Straw, and Corn-stalk Cutters; Grant's Patent Fan Mills, for chaffing and screening wheat at one operation, warranted to take out cockle, cheat and smut. Also good Fans, for $14 to $18 each.

Whitman's Horse-powers and Threshing Machines, with Straw Carriers and Fan Mills attached; Spain's Improved Barrel Churns, the dashers of which may be taken out to clean. Cheese-presses, &c.; Centre-Draught, Self-sharpening, Right & Left-hand Ploughs, warranted to give satisfaction in their operation.

May 15th—tf.

SEED STORE,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red Clover, and other grass seeds; fresh Perennial Rye-grass, and Lucerne seed. Field seeds, consisting of choice Spring Wheat, Barley, Potatoe Oats, Northern and other seed-corn. Also, in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., Feb., 1847. tf.

Agency for the Purchase & Sale of

IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, swine, poultry, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

April 15th, 1847.

NEW

Horticultural and Agricultural Ware-house,

84 *Chesnut Street below Third, South side.*

The subscriber has for the better accommodation of his customers, opened the above ware-house, with a large stock of Garden and Field Seeds, crop of 1846. Implements and Books on Gardening and Farming; he calls the particular attention of farmers to his pure stock of Sweede Turnips, Field Carrots, Beets and Parsnips, Pruning Shears, Saws and Knives.

March 14th, 1847.—1y. R. BUIST.

COAL.

THE subscriber has made an arrangement for a constant supply of superior Lehigh and Schuylkill Coal—carefully prepared for family use, which he will furnish *at the usual cash prices*, on application at the office of the Farmers' Cabinet, where samples of the different kinds and sizes may be seen.

JOSIAH TATUM.

Philadelphia, Seventh month 15th, 1847.

COATES' SEED STORE,

No. 49 *Market Street,*

FRESH TIMOTHY SEED,

Of various qualities, from good common seed to the purest and finest that can be produced,

TOGETHER WITH A COMPLETE ASSORTMENT OF

GRASS & GARDEN SEEDS,

Of the finest Quality and best Varieties,—Bird Seeds, &c.

JOS. P. H. COATES,
Successor to George M. Coates.

May 15th, 1847.

☞ SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

THE quantity of rain which fell in the 9th month, 1847, was ..... 8.07 in.

Penn. Hospital, 10th mo. 1st.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$3 50
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	50
Complete sets of the FARMERS' CABINET, half-bound, 11 vols.	9 50
DOWNING'S Landscape Gardening,	3 50
Downing's Fruits and Fruit Trees of America,	1 50
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion.	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
MORRELL'S AMERICAN SHEPHERD,	1 00
STABLE ECONOMY,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
THOMAS' FRUIT CULTURIST,	50
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
HOARE ON THE VINE,	62½
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½
JOHNSON'S DICTIONARY OF MODERN GARDENING,	2 25

Subscriptions received for Colman's Agricultural Tour—or single numbers sold.

☞ We are prepared to bind books to order.

AFRICAN GUANO.

First quality African Guano, from the island of Ichaboe, warranted genuine. Also a few tons Peruvian

For sale by J. B. A. & S. ALLEN,
No. 7 South Wharves, 2nd Oil Store below Market street.

Philadelphia, March 17th, 1847.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels each, or 35 cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. We are now ready to supply any demand for wheat.

JOSIAH TATUM.

Philada. 8th mo. 16th, 1847.

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It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For eight dollars paid in advance, a *complete set* of the work will be furnished in numbers, including the 12th volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered.* Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage.

Joseph Rakestraw, Printer.